

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

11
13
50

SEPTEMBER 9, 1950

NO OTHER BEARING WITH SO MUCH TO OFFER!



1 Rolls are "made for each other"! The rolls of a Timken tapered roller bearing are uniformly sized for their particular cup and cone, thanks to precision manufacture. Bearings last longer because each roll carries its full share of the load.

2 No lateral sliding friction in a Timken bearing, due to its tapered design.

3 Rolls stay put...for life! The rolls in a Timken tapered roller bearing are permanently retained in the bearing assembly. Can't fall out and pick up dirt during bearing changes.

4 Hard on the outside—tough on the inside! Rolls and races made of Timken fine alloy steel with wear-resisting surface and tough, shock-resistant core.

5 No special thrust blocks needed. Timken bearings take both radial and thrust loads!

6 Use either oil or grease!

7 No roll skidding or skewing! Cone rib keeps tapered rolls in positive alignment. Load is spread over full roll length.

8 No adjustments needed when wheel and axle assembly are installed in the truck.

9 Axle magnaflux inspection simplified! Bearings press off with the wheel.

10 Polished axle ends aren't necessary! No thrust block used.

11 Special axle length tolerances not required!

NO OTHER BEARING SO FULLY PROVED!

USED ON OVER 5,000 PASSENGER CARS, OVER 6,000 STEAM, DIESEL
AND ELECTRIC LOCOMOTIVES, 3,900 FREIGHT CARS!

Pioneer of anti-friction bearings for railroads, Timken has remained the leader ever since.

The advantages of Timken bearings have been conclusively proved in every type of railroad operation. Over 5000 passenger cars roll on Timken bearings—more than on any other make of anti-friction bearing. Over 3500 freight cars roll on Timken

bearings—more than on any other make of anti-friction bearing. Over 4000 steam locomotives roll on Timken bearings—more than on any other make of anti-friction bearing.

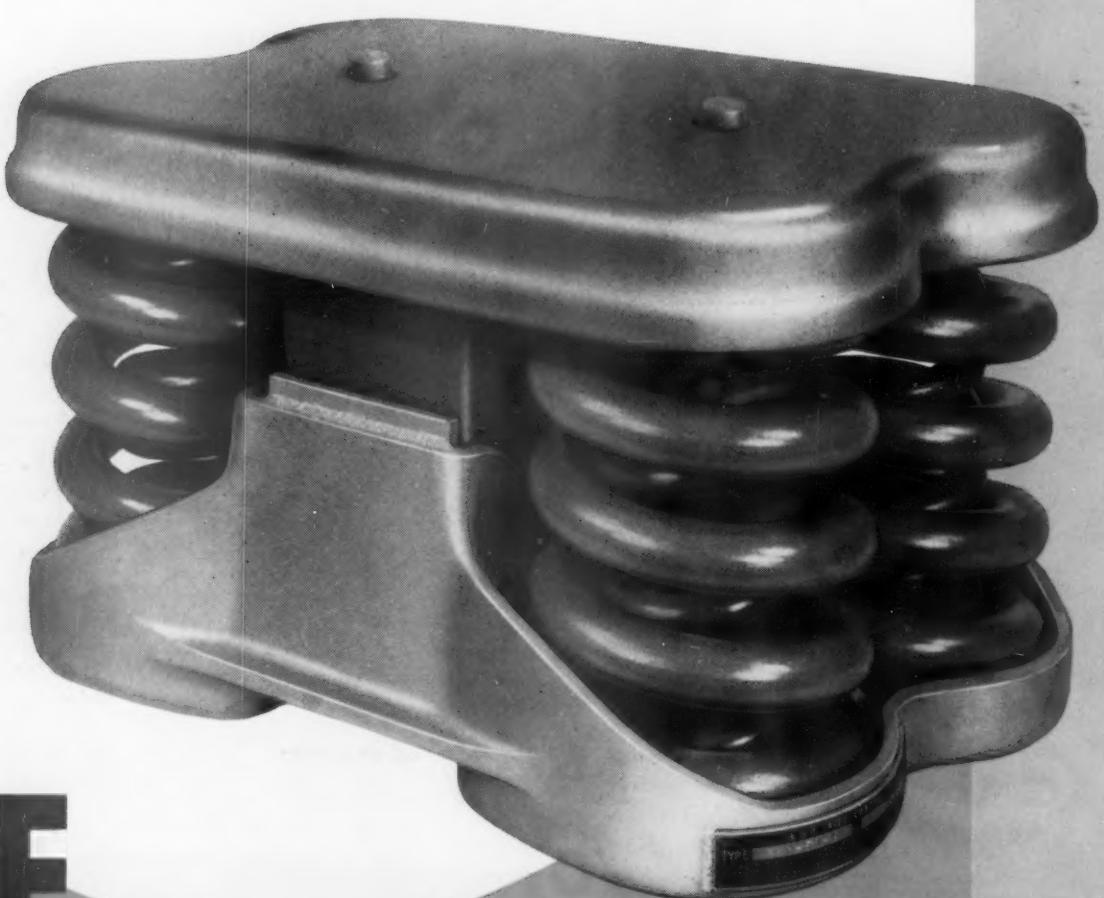
Let us help you with your bearing applications. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL • NOT JUST A ROLLER • THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

The low-cost way to rehabilitate your
rough-riding freight trucks for truly
modern, money-saving performance



A·S·F
Ride-Control® PACKAGE

LONG SPRING TRAVEL PLUS CONSTANT FRICTION CONTROL
... ALL IN ONE SELF-CONTAINED UNIT

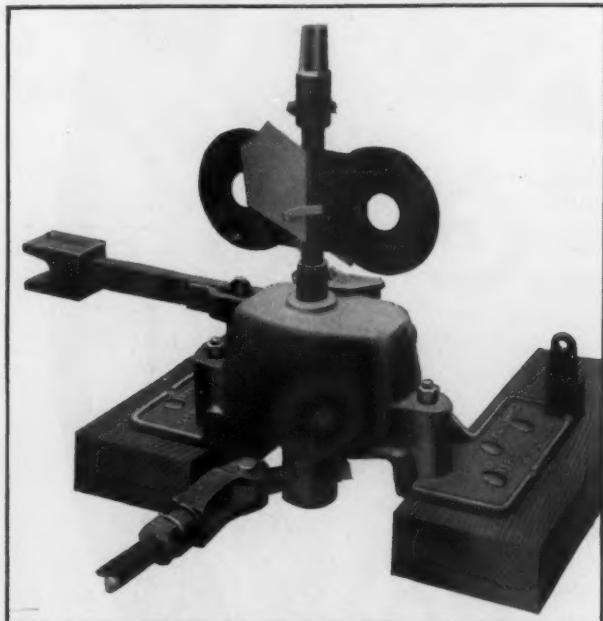
AMERICAN STEEL FOUNDRIES

FINE MARK OF FINE CAST STEEL

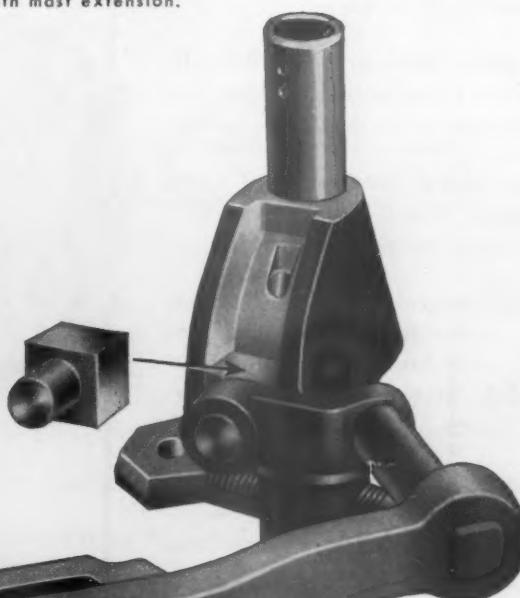


SO SIMPLE!

(Just three moving parts in Bethlehem's 53 Switch Stand)



The Model 53 is furnished in two types—low, as shown here, and intermediate, equipped with mast extension.



Working parts of the Model 53. This view shows details of throwing arm, sliding block, and spindle.

A stand with one of the simplest, most effective mechanisms ever devised—that's Bethlehem's Model 53.

It operates on the principle of the sliding block, which turns a grooved spindle whenever the throwing arm is moved. The design makes possible especially high leverage and smooth transmission of power to the screw-eye crank.

There are but three moving parts—throwing arm, sliding block, and spindle assembly. If, after long service, the block shows evidence of wear, it can easily be turned 90 degrees to place fresh surfaces in contact with the spindle groove.

The Model 53 is easy to throw, and because of its simplicity, virtually no maintenance is required. Investigate this powerful, rugged stand, which is recommended for both main-line and heavy yard duty. A study of its features will emphasize the points cited above—and other good ones of interest to you.



BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

IT'S EASIER WITH HYATTS

Hyatt Journal Boxes are completely dependable; liberal proportions of all parts insure long trouble-free life.

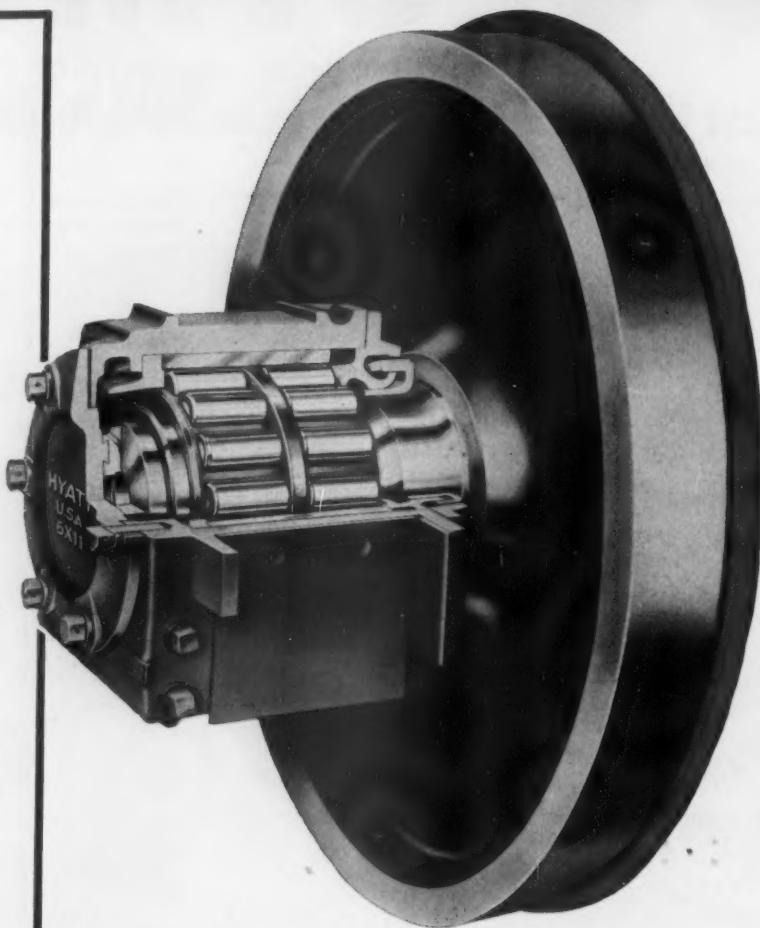
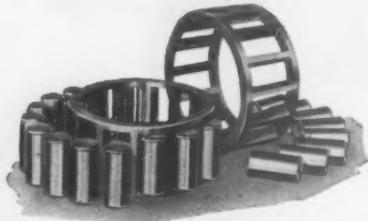
Boxes can be removed from car axles easily and quickly without breaking press fits.

All parts, down to individual rollers, are completely accessible for thorough cleaning and inspection.

Free lateral movement of axles reduces wheel flange wear and improves riding quality.

Interchangeability permits storing protective spare wheel sets with only inner races and water guards instead of complete journal boxes.

Patented taper relief virtually eliminates axle breakage resulting from inner race press fits.



Hyatt Roller Bearing Journal Box with a section cut away to reveal the liberal proportions and rugged construction of interior parts.

The complete dependability of Hyatt Roller Bearing Journal Boxes has been thoroughly proven by outstanding performance of many thousands of Hyatt boxes in all kinds of railroad service.

In addition to dependable service and easier riding, officials of many roads have discovered for themselves, in their own shops, that "It's Easier with Hyatts." The ease of main-

tenance, interchangeability, simplified wheel turning, reduced investment in spares, and complete accessibility engineered into Hyatt boxes make them the first choice of railway mechanical men.

Write for our new journal box visualizer and demonstrate these advantages for yourself. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT ROLLER BEARING JOURNAL BOXES

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.



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Select the Best Control Point For Your New Signaling!

Thanks to modern "Union" control systems . . . the control point for a new signal installation can be ten, twenty, fifty, a hundred or more miles from the actual controlled territory.* Economical . . . too . . . because only a two-wire line . . . upon which other facilities can be superimposed . . . is required to bridge the intervening distance.

Railroads are free to select control points

which will provide the greatest operating and economic advantages from their C.T.C. . . . Interlockings . . . and other installations. That is why so many roads are now concentrating control at division headquarters . . . to obtain the highest degree of efficiency by fully utilizing the division-wide knowledge of operations available only to headquarter's personnel. May we give you further details?

*In twelve installations, on 9 railroads, the average distance from the control point to the territory is 61 miles.

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PENNSYLVANIA

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ST. LOUIS SAN FRANCISCO





WEEK AT A GLANCE

THE SOCIAL RESPONSIBILITY OF MANAGEMENT:

In addition to doing a grand job of running his own big company, William B. Given, Jr., president of American Brake Shoe, finds time to give a lot of clear and constructive thought to the larger problems of industrial management. He is the author of at least one excellent book on the subject, and has lectured at New York University on "The Social Responsibility of Management from the Viewpoint of Management." In that lecture, an abstract of which begins on page 58, Mr. Given points out that, while management's main job is to operate its business successfully, truly successful operation means giving to company people—employees and stockholders—more of the things they want in life. That, in turn, means, he says, making the company a better place to work, a better neighbor in its communities, and a better company to invest in, sell to and buy from.

WHAT ABOUT RAILROAD MANAGERS? With the positive emphasis which Mr. Given quite properly places on satisfactory working conditions in his discussion on page 58 of the social responsibility of business management, it is surely appropriate that this issue's leading editorial (page 43) should be on the subject of management's responsibility to itself—on its duty to keep earnings high enough to attract able men in a competitive market, and to train the men thus attracted. "Management," says the editorial, "has no higher duty, not just in its own selfish interest, but in that of the whole country, than to seek to maintain at the top of the economic scale salaries and 'working conditions' of managerial positions."

ARE THE RAILROADS REALLY READY? Col. J. Monroe Johnson, I.C.C. chairman, has his doubts—based chiefly on his conviction that they will have, two years from now, fewer freight cars than they have at present, despite recent large-scale ordering. His views were set forth in some detail in recently-released letters which he wrote last month to two members of Congress. The file of correspondence, which also includes a letter from A.A.R. President William T. Faricy, is reviewed in the News pages. Elsewhere in those pages is a comment by Col. Johnson to the effect that heavy-loading orders may be issued in the near future.

SAVING MONEY: How fork trucks and pallets save money for the stores department of the Central of New Jersey is told with words and pictures on pages 54 and 55 by G. R. Merryman, C.N.J. general storekeeper.

IN THE SPOTLIGHT: P.R.R. orders 337 Diesel-electric locomotive units, to cost \$55 million.—Erie announces \$1.5-million program to expand Diesel repair and maintenance facilities.—Plowman names M.T.S. staff and advisory council.—Railroads reach wage-hour agreement with switch-

men's union.—"Railroad Hour" to return to regular winter schedule.—Wage-hour talks resumed in Canada; also between railroads and O.R.C.-B.R.T. officials in this country.—Rock Island report sizes up effect of switchmen's strike.—Air parcel post rates revised.—Federal Barge Lines begins scheduled "express" service for carload and l.c.l. freight.

TRANSVERSE DIESEL SHOP: Out at Danville, Ill., the Chicago & Eastern Illinois has worked out a new solution to the problem of providing repair and maintenance facilities for Diesel locomotives. The C.&E.I.'s answer was to convert existing steam locomotive shops to handle Diesels—but the interesting feature of the work is that the steam shop was of the transverse type, served by a 60-ft. transfer table, and that this transverse feature has been retained. The details of the job are described and illustrated in the feature article which begins on page 62.

"INFOMAT": Nothing, probably, is more irritating to a potential railroad passenger than the long delay which is so likely to occur in obtaining rooms, berths or seats. Any system or device which will overcome that delay—aside from any other advantages it may have—is likely to be a long step toward better public relations. Such a device is the Union Switch & Signal Co.'s "Infomat," now being tried out by the Pennsylvania at Cleveland, Ohio; it not only produces, within 8 seconds, a report on space available on any given train, but lets the prospective passenger see for himself what it is. See pages 65 and 66 for a description and pictures of the "Infomat."

"SUPER-VISION FOR SUPERVISION": What can be done to help men in positions of responsibility to acquire the super-vision they need as supervisors and leaders of people? In the opinion of Harvey C. Marmaduke, Illinois Central executive department representative, "the positive approach is to encourage the supervisor to study the lessons learned by his predecessors in the school of experience." There are, he says, "five principal lessons to be learned, namely, (1) study subordinates, (2) be human and considerate of others, (3) delegate responsibility, (4) let others in on plans, and (5) make people want to do things." An abstract of Mr. Marmaduke's own analysis of these five lessons begins on page 51.

BUILDING FOR THE FUTURE: There'll be no "lost generation"—so far as rail travel is concerned—in Texas if the T.P. can help it. Like some other roads, such as the Central of Georgia and the Chesapeake & Ohio, the Texas & Pacific is going all-out to acquaint the youngsters in its territory with the pleasures and virtues of rail travel, through an extensive program of all-expense educational tours and trips "behind the scenes." The program, and some of its results, are outlined on pages 56 and 57.

Light Traffic Economy

REQUIRES . . .

LIGHT TRAFFIC LOCOMOTIVES

These 44-ton, 400-hp and 70-ton, 600-hp diesel-electrics can handle your light traffic operations with practically no waste of power. Because they are built for light traffic service, they reduce the excessive fuel and operating costs amassed by heavyweight or out-of-date locomotives.

Combining light axle weight with relatively high horsepower, multiple operation of these locomotives provides a range from 400- to 1800-hp to handle the toughest jobs. Thus, as single units, or in multiples of two or three units, they provide the advantages of several classes of locomotives, while maintenance and parts are reduced to one class.

Now in service on many of the largest Class I systems, they are also working on scores of Class II and Class III railroads.

Why not take another look at your own light traffic operations? Let this dependable, diesel-electric motive power reduce costs, improve your earning rates. Our representatives, and our locomotives, are ready to help you.

GENERAL  **ELECTRIC**

121-54



100

F&C R.R.C.

70 TON, 600 H.P.



44 TON, 400 H.P.

Section A121-54
Apparatus Dept.
GENERAL ELECTRIC
COMPANY
Schenectady 5, N.Y.

Please send me bulletin GEA-3958A, 44-ton locomotive
GEA-4657, 70-ton locomotive

Bulletin needed for: REFERENCE PURPOSES PLANNING IMMEDIATE PROJECT

NAME _____ POSITION _____

(Please Print)

ADDRESS _____ CITY _____ ZONE _____ STATE _____

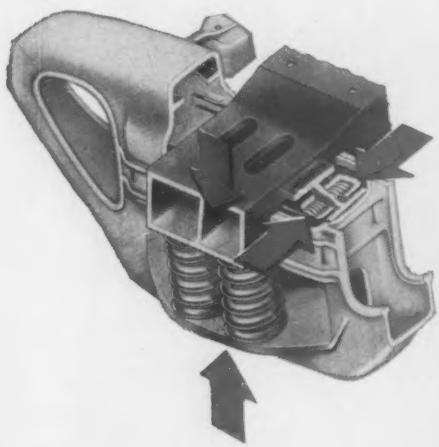
ROAD-PROVED...

- by MILLIONS of miles of service on over 20 leading lines—
- by scientific, instrumentation mainline road tests—



- provide ultimate riding qualities and tracking characteristics at all speeds
- reduce lading damage to a minimum.

—because exclusive L-V action
completely cushions and
controls both lateral
and vertical motion—
without costly maintenance!



No freight car is more modern
than its trucks.



SCULLIN STEEL CO. SAINT LOUIS 10, MISSOURI

NEW YORK — CHICAGO — CLEVELAND — BALTIMORE — RICHMOND, VA. — MEXICO CITY, D. F.

JACKSON

MULTIPLE TAMPERS

Now

**IMMEDIATELY AVAILABLE
ON TERMS TO SUIT YOUR PARTICULAR
BUDGETARY REQUIREMENTS**

- ✓ OUTRIGHT PURCHASE
- ✓ TIME PAYMENT PLAN
- ✓ RENTAL WITH OPTION TO BUY

These universally successful tie tamping machines have already been selected and purchased by more than 45 leading railroads as the best means of achieving perfect track at the lowest possible cost per mile.

Write . . .

wire or phone for complete information. Prompt deliveries can be made to those who want to capitalize on the tremendous advantages of this machine immediately, or to those who wish to rent one and prove on their own track that it is by far the best bet in cost-saving, tie-tamping equipment.

THE ONLY MACHINE WITH WHICH PERFECT TRACK CAN BE PUT UP IN JUST ONE OPERATION
THOROUGHLY PRACTICAL UNDER AVERAGE TRAFFIC CONDITIONS
UNDER MOST CONDITIONS WILL SAVE MORE THAN ITS COST IN A SINGLE SEASON

ELECTRIC TAMPER & EQUIPMENT CO. LUDINGTON MICHIGAN

GUARD YOUR DIESELS

SPIN

SLIDE

LOCK-UP

A G A I N S T . . .

with the NEW



American Brake Shoe Controller

The American Brake Shoe Controller gives 3 in 1 protection for diesel locomotives because it:

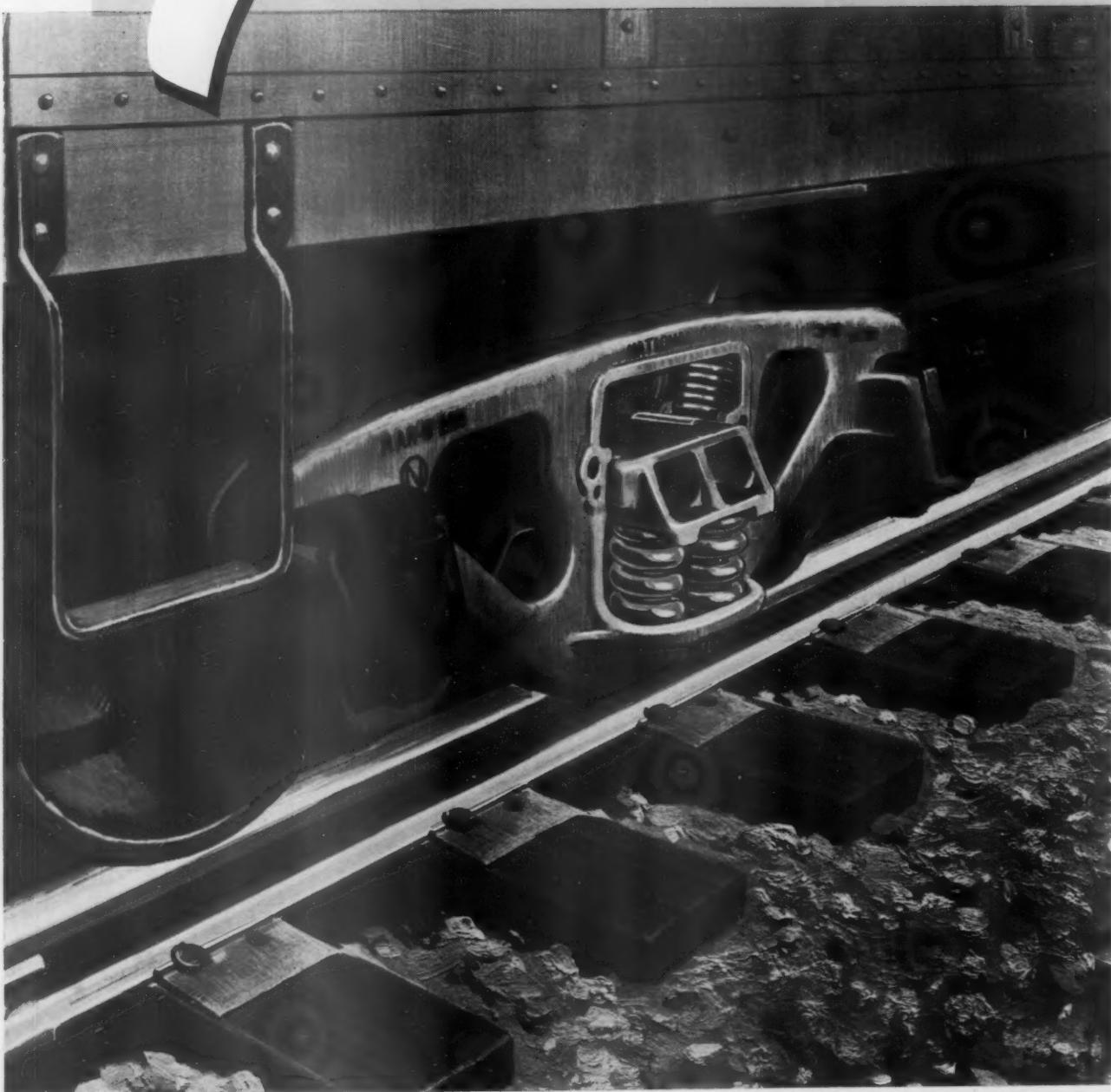
- ① Detects and corrects spin promptly at all speeds.
- ② Detects and corrects sliding during braking.
- ③ Detects and warns if wheel becomes locked.

The American Brake Shoe Controller is not new. Proven through years of service on high-speed passenger car and locomotive equipment, it is now adapted to give 3 in 1 wheel protection on diesel locomotives. American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

AMERICAN
Brake Shoe
COMPANY

BRAKE SHOE AND CASTINGS DIVISION

7 reasons for



NATIONAL MALLEABLE AND
TRUCKS • COUPLERS • YOKES • DRAFT GEARS

Smoother Riding

ON NATIONAL C-1 TRUCKS

Examine a NATIONAL C-1 TRUCK and you'll see 7 reasons for their smoother riding and for the superior protection they give to lading, equipment and roadbed:

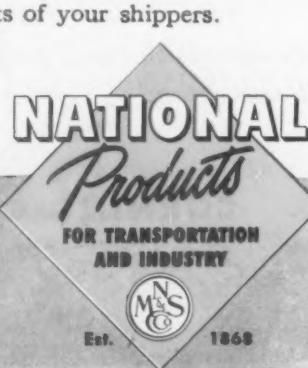
- 1 **QUICK, EASY, VISUAL INSPECTION** . . . affording immediate proof of constant friction control, without the cost or time of handling or removing a single part.
- 2 **FRICITION MECHANISM IN THE SIDE FRAME** . . . controls lateral and vertical motion by maintaining correct pressure on bolster wear plates at all times.
- 3 **LARGE WEDGE BEARING SURFACES** . . . reduce wear to a minimum; the bolster is protected by hardened steel
- 4 **COLD-WOUND, SHOT-PEENED, LOW-STRESSED and LOW-RATE WEDGE SPRINGS** . . . for constantly maintained capacity and long life.
- 5 **FULL BOX-SECTION BOLSTER** . . . gives maximum strength and rigidity.
- 6 **SPRING DEFLECTIONS of $2\frac{1}{2}$ ", $3\frac{1}{16}$ ", $3\frac{11}{16}$ " and 4"**.
- 7 **TRUCK SQUARENESS** . . . maintained by wedge aligning lugs, integrally cast in the top of each journal box.

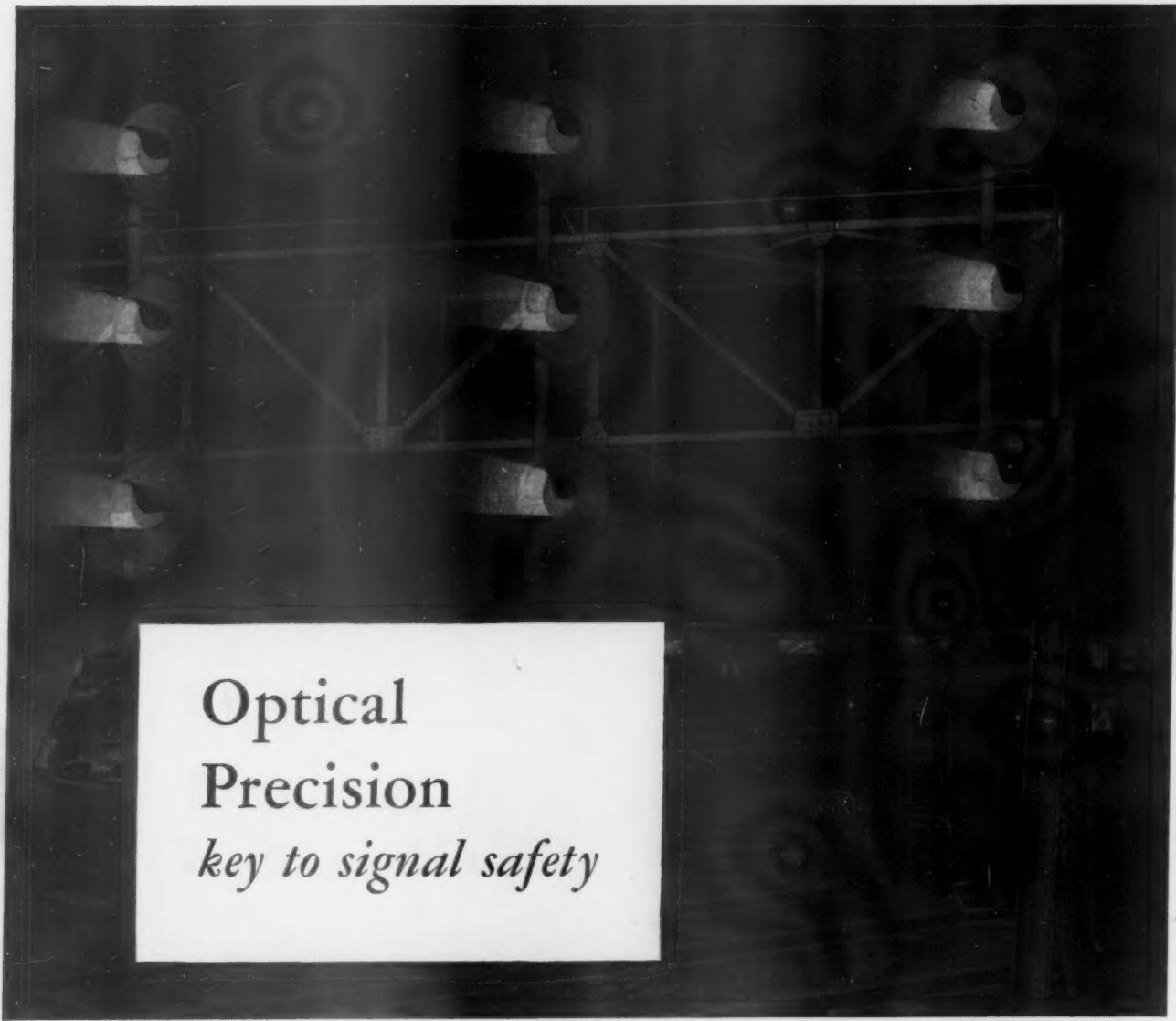
These 7 basic points give "lading-conscious", NATIONAL C-1 TRUCKS outstanding ability to protect your equipment and the interests of your shippers.

NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY
CLEVELAND 6, OHIO

STEEL CASTINGS CO.

• JOURNAL BOXES and LIDS





Optical Precision *key to signal safety*

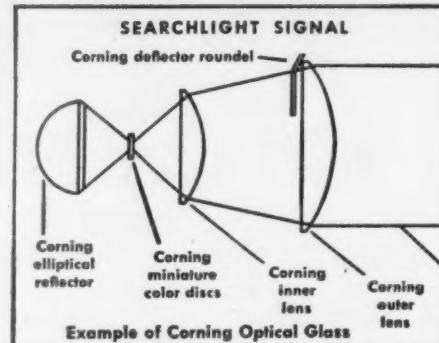
Visibility and clarity of signals depend on optical precision. That is something you can take for granted with Corning products. Nevertheless, it is the all-important key to signal safety.

Engineers of modern high-speed trains must be able to see signals clearly and distinctly thousands of feet ahead, day or night. It does not take much of an error in a lens to make this difficult or even impossible. Only lenses that meet precision tests can be used.

By specifying Corning products, you get the signalware that established the A.A.R. standards—precision signalware that is available at any time.

Safety depends on signal glassware . . .

Railroads depend on Corning



CORNING GLASS WORKS



CORNING, N. Y.

Corning means research in Glass

Technical Products Division: Signalware, Laboratory Glassware, Plant Equipment, Lightingware, Glass Pipe, Gauge Glasses, Optical Glass, Glass Components



STANDARD HD
TRADE MARK
Diesel Oil

...on more than 60 U.S. railroads

Wide acceptance of STANDARD HD by railway diesel operators is one proof of the ability of this superior diesel-engine lubricant to reduce costs and maintenance. Test runs on line after line led to adoption of STANDARD HD for all types of service—heavy freight haulage, fast passenger runs, or switching. All makes and models of diesel engines are successfully lubricated with STANDARD HD.

You will get the greatest possible engine cleanliness and economy by the exclusive use of STANDARD HD on diesel equipment.

You can count on STANDARD HD to help you keep diesel-engine maintenance and operating costs low. Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY (INDIANA)



LIMA-HAMILTON SWITCHERS

...on the **NICKEL PLATE ROAD**



TAKEN AT MUNCIE, INDIANA.

"Our Lima-Hamilton switchers have performed satisfactorily and have been dependable in their operation."

Says the NICKEL PLATE ROAD



LIMA-HAMILTON CORPORATION

Lima Locomotive Works Division

LIMA, OHIO



Pressure-Treated Car Decking

UNTREATED CAR DECKING

\$176.25	.....	Lumber & Installation	.....	\$176.25
		Cost of Pressure-Treatment	.....	<u>35.25</u>
\$176.25	.....	Cost in Place	.....	\$211.50
	5 yrs.	Expected Service Life	..... 18 yrs.	
\$ 35.25	.....	Annual Cost per Car	.....	\$ 11.75

TREATED CAR DECKING

Annual Cost per Car (Untreated)	\$35.25
Annual Cost per Car (Treated)	<u>11.75</u>
Annual Saving	\$23.50 or

66.6% Return on Investment

• These figures are based on reports by railroads which have been using Pressure-Treated car lumber over a period of years. They are dramatic proof of the fact that the cost of pressure-treatment is not an expense, but rather an investment that pays dividends.

As rising labor and lumber costs pyramid the maintenance expense of railroad cars, the vital importance of obtaining 3 and 4 times greater car lumber service through pressure-treatment is increasingly apparent.

Why not find out how much your railroad can save by using pressure-treated decking for stock, flat and open top cars? We will gladly give you an analysis and report based on your rolling stock and the lumber purchasing procedures of your railroad. This service is free.

To arrange for such an analysis and report just write, wire or phone Mr. R. H. Bescher, Manager, Technical Department, Orrville, Ohio.



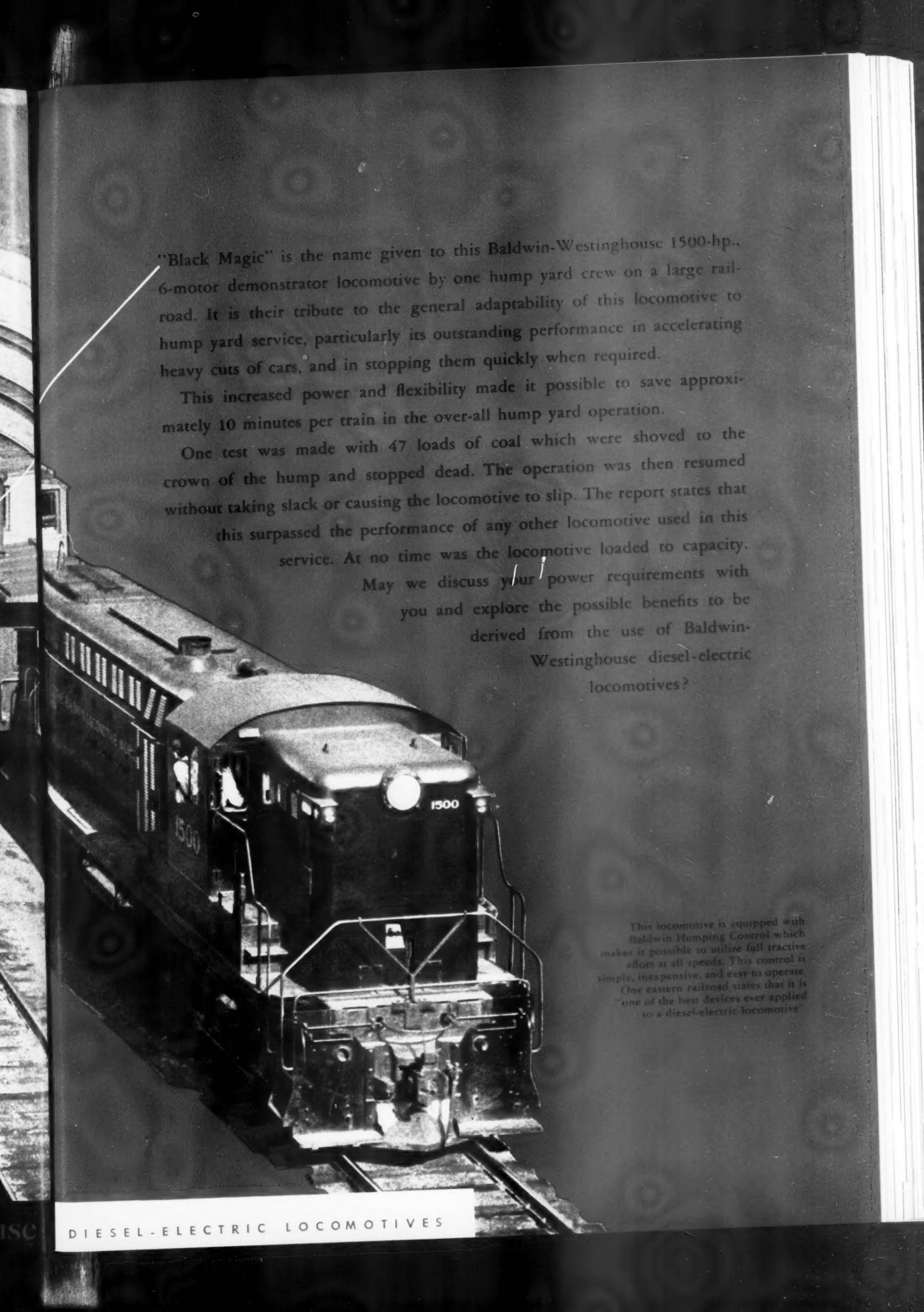
PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC. • Pittsburgh 19, Pa.

*the
yard crew
named it
"black
magic"*



BALDWIN - Westinghouse



"Black Magic" is the name given to this Baldwin-Westinghouse 1500-hp., 6-motor demonstrator locomotive by one hump yard crew on a large railroad. It is their tribute to the general adaptability of this locomotive to hump yard service, particularly its outstanding performance in accelerating heavy cuts of cars, and in stopping them quickly when required.

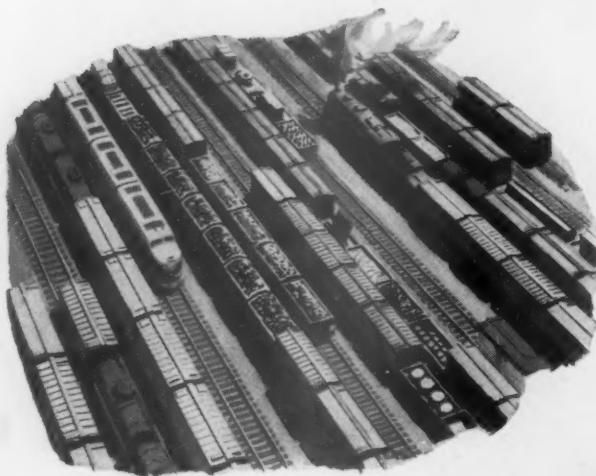
This increased power and flexibility made it possible to save approximately 10 minutes per train in the over-all hump yard operation.

One test was made with 47 loads of coal which were shoved to the crown of the hump and stopped dead. The operation was then resumed without taking slack or causing the locomotive to slip. The report states that this surpassed the performance of any other locomotive used in this service. At no time was the locomotive loaded to capacity.

May we discuss your power requirements with you and explore the possible benefits to be derived from the use of Baldwin-Westinghouse diesel-electric locomotives?

This locomotive is equipped with Baldwin Humping Control which makes it possible to utilize full tractive effort at all speeds. This control is simple, inexpensive, and easy to operate. One eastern railroad states that it is one of the best devices ever applied to a diesel-electric locomotive.

*** TOO PRECIOUS TO WASTE! ***



HERE'S WHAT THE RAILROADS ARE DOING!

The railroads have moved rapidly to provide the nation with the transportation it needs. They are ordering tens of thousands of new freight cars for early delivery and will continue to acquire cars to bring ownership up to 1,850,000. They are stepping up their car repair and rebuilding program to put additional thousands of cars at your service. In addition, the railroads have pledged themselves to secure the utmost efficiency in the use of cars. This is being achieved by—

- speeding up road haul and terminal movements
- heavier and faster loading and unloading of company material
- better handling of cars
- prompt embargoes to avoid congestion



HERE'S WHAT SHIPPERS CAN DO!

Shippers can help immeasurably by—

- loading and unloading cars quickly
- furnishing billing promptly
- loading cars as heavily as commercial requirements permit
- unloading cars completely, including bracing and blocking

Shippers and railroads working together have licked big jobs before—and, with the same sort of teamwork, they will do it again.



Listen to THE RAILROAD HOUR
Every Monday evening on NBC

*** Association of American Railroads ***

WASHINGTON 6, D.C.

*what makes
the wheels go 'round
in free interchange?*

Their easy maintenance, maximum economy, and dependable performance have made SOLID JOURNAL BEARINGS the Railroads' choice as the bearing standard . . .

More Service-Proved FACTS about Solid Journal Bearings

Unmatched Performance—with as high as 6½ Million bearing miles per car setout.

Easiest to Maintain—replacement takes minutes, without need for skilled labor.

Simple in Design—the only answer to unrestricted interchange.

Lowest Cost—save over 25% on car cost; average only \$20.00 per car set in replacement.

Most Liberal Tolerances—axles can be used and reused with simple roller burnishing.

Lowest Running Friction—a single film of oil permits faster acceleration, lower running resistance—particularly at low temperatures.

Lightest Weight—up to 60% less dead weight than any other type of bearing.



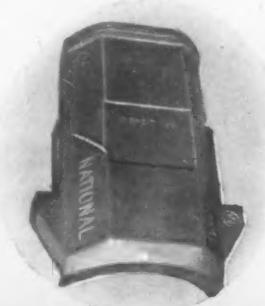
AMERICAN

Brake Shoe

COMPANY



From coast to coast it's the SOLID BEARING . . . for dependable, economical service.



NATIONAL BEARING DIVISION

4937 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

4 Awards



For Exceptional Service to Safety ...

certificate of award from the National Safety Council—the second successive annual award for outstanding work in behalf of safety.

For Excellence in Design and Purpose of Cover ...

certificate of award from the Chicago Business Papers Association for the front cover of April 29, 1950, (a General Motors front cover advertisement).

For Outstanding Original Research ...

Award of merit for editorial excellence from Industrial Marketing's annual editorial competition.

For Outstanding Graphic Presentation ...

award of merit for editorial excellence Industrial Marketing's annual editorial competition.

FIRST IN EDITORIAL SERVICE • IN RAILWAY

TO RAILWAY AGE

Symbols of Meritorious Service

What is the measure of a business magazine?

There is really only one; service to its readers and its industry. That *Railway Age* serves both well is shown by its 94-year history. No magazine could be enthusiastically supported for so long unless it has proved itself indispensable to the industry.

Yet there is further evidence of *Railway Age's* usefulness and excellence. It comes from outside authorities who weigh our endeavor against rigid criteria and judge performance accordingly.

We are proud that the National Safety Council, the Chicago Business Papers Association, and Industrial Marketing magazine have all praised *Railway Age* in recent months. It should also be a source of satisfaction to *Railway Age* readers that their magazine deserves such recognition.

RAILWAY AGE

*"Reading Railway Age Is a Part of the Business
of Railroading"*

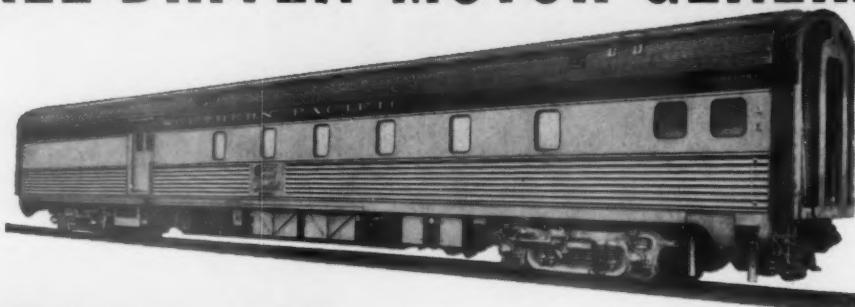
RECOGNITION • IN PUBLISHING LEADERSHIP

RAILROADERS'



Power a-plenty for
modern passenger cars

NEW S. P. TRAINS USE
G-E AXLE-DRIVEN MOTOR GENERATORS!



For periodic inspections, General Electric axle-driven motor generators are easily accessible.

G-E axle-driven motor generators like this one are helping railroads sell more passenger miles through more and better electrical equipment for passenger comfort.

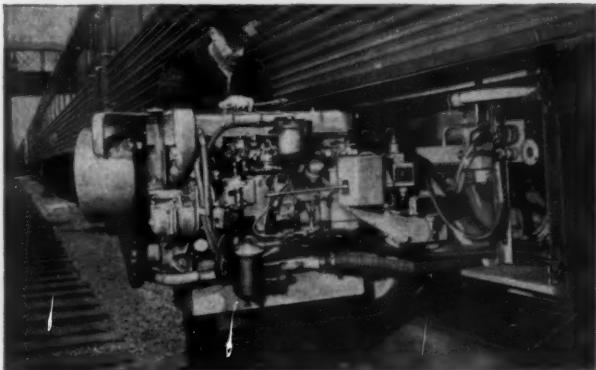
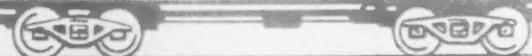


GENERAL  ELECTRIC

152-13

DIGEST

News and notes about
GENERAL ELECTRIC products
 for the railroad industry



G-E Undercar Power Plant POWER WITHOUT DRAG!

There's no drag on passenger locomotives with these G-E Undercar Power Plants—each unit is a complete diesel-electric plant by itself! Here's the answer to the job of supplying power for ever-increasing passenger comfort devices on longer and faster trains.

High Load Capacity—gross output of 30 kw and a rating of 33.8 kva, 220 volt, 60 cycle three phase.

Automatic Train Lining—Units operate in parallel. Full power load can be carried with several units shut down.

Less Dead Weight—complete unit weighs less than 5000 pounds. Eliminates 90% of conventional battery weight.

Imperceptible Operating Noise—all ducts are sound insulated. Plant and enclosure are suspended on rubber.

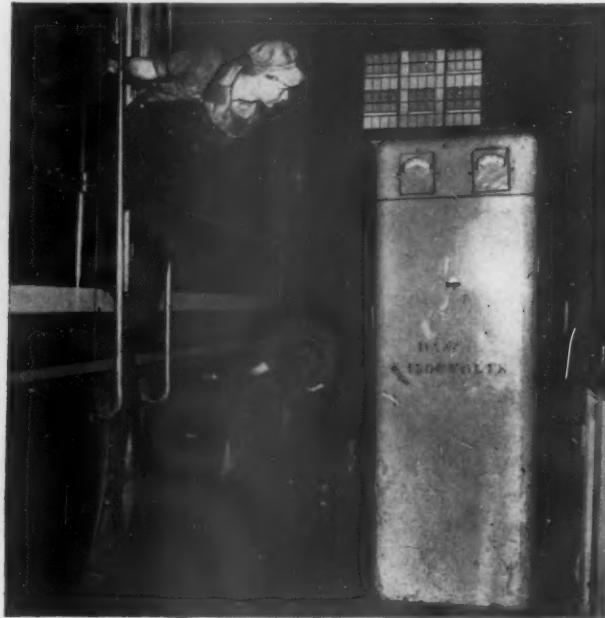
Uses Standard A-C Equipment—units produce a-c directly. Choice of standard equipment makes attractive savings.

Free Car-Heating BTU's—about 250,000 BTU's per hour.

Universal Track Clearance—no problem here—even on eastern electrified zones.

Arrange with your General Electric representative to see this remarkably efficient unit. Check Bulletin 152-6 for details. **Apparatus Department, General Electric Company, Schenectady 5, New York.**

From the unit in place to the completely "swung out" position in less than 15 seconds means fast, easy servicing.



Here's the NEW way to Test Diesel-Electric Power

Hooking up General Electric's loading resistor tester is the new, time-saving way to test diesel-electric power plants. It's easy to hook-up and operate—one man can run an entire test. It's portable—an ordinary fork truck can move it right up to the job.

This low-cost unit will test any diesel engine up to 2500-hp—check engine output, generator and control performance and provide for "run-in" tests.

To meet your specific needs, there are two models—Form D for very quick "rough" checks, maximum possible error 15 volts—Form E for precision testing, accurate as the laboratory type instruments you choose.

Call in your G-E representative for detailed information. Check Bulletin GER-117 for complete details. **Apparatus Department, General Electric Company, Schenectady 5, N.Y.**

General Electric Company, Section C152-13

Apparatus Department, Schenectady 5, N.Y.

Please send me the following bulletins:

- GEA-4671—Axle-driven Motor Generators**
- GER-117—Loading Resistor For Testing Diesel-Electric Power Plants**
- 152-6—Undercar Diesel-Electric Power Plant**

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Company _____

Street _____

City _____ State _____



Where Steel Construction Counts

Experience shows that the high-strength steel cell construction of EDISON batteries is a very important reason for their successful use in axle-generator-battery systems in cabooses where the mechanical shocks incidental to freight-train operation put a premium on mechanical durability.

In other respects also, axle-generators and EDISON batteries are dependable, economical and practical as an electric power supply for cabooses. They are dependable and economical as proved by their many years of car lighting service. They are practical because they comprise an all-electric system, and, as such, can be maintained in their entirety by the railroad's electrical department.

And EDISON batteries, in addition to their great mechanical durability, withstand the overcharging

and overdischarging inherent in generator-battery systems; they are light in weight; they deliver long life at low cost per year. Get a current price quotation; see how little higher it is than for batteries of comparable capacity which do not have steel cell construction. And consider how their long life further cuts costs by postponing the need for replacement in an inflation economy. EDISON Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N. J.



EDISON
Nickel • Iron • Alkaline
STORAGE BATTERIES

The news is sweeping the country!



It's the
Sanistand



... a new urinal for women by **AMERICAN-Standard**

FROM all over the country orders are pouring in! From hotels, restaurants, night clubs, theatres, department stores, bus and railway terminals, schools, universities, factories, service stations. Everyone concerned with the operation and upkeep of public rest rooms for women is interested in the new Sanistand fixture. It has been carefully designed and constructed to offer the utmost convenience, efficiency and cleanliness . . . and has been thoroughly examined and approved by women users in test installations all over the country.

Every day more people responsible for the maintenance

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Dept. RA-9, Pittsburgh 30, Pennsylvania.

AMERICAN-Standard
First in heating . . . first in plumbing

Look for this  Mark of Merit

American Radiator & Standard Sanitary Corporation
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Please send me, without obligation, your new Better Rest Room Guide, including complete information on the Sanistand.

Name _____

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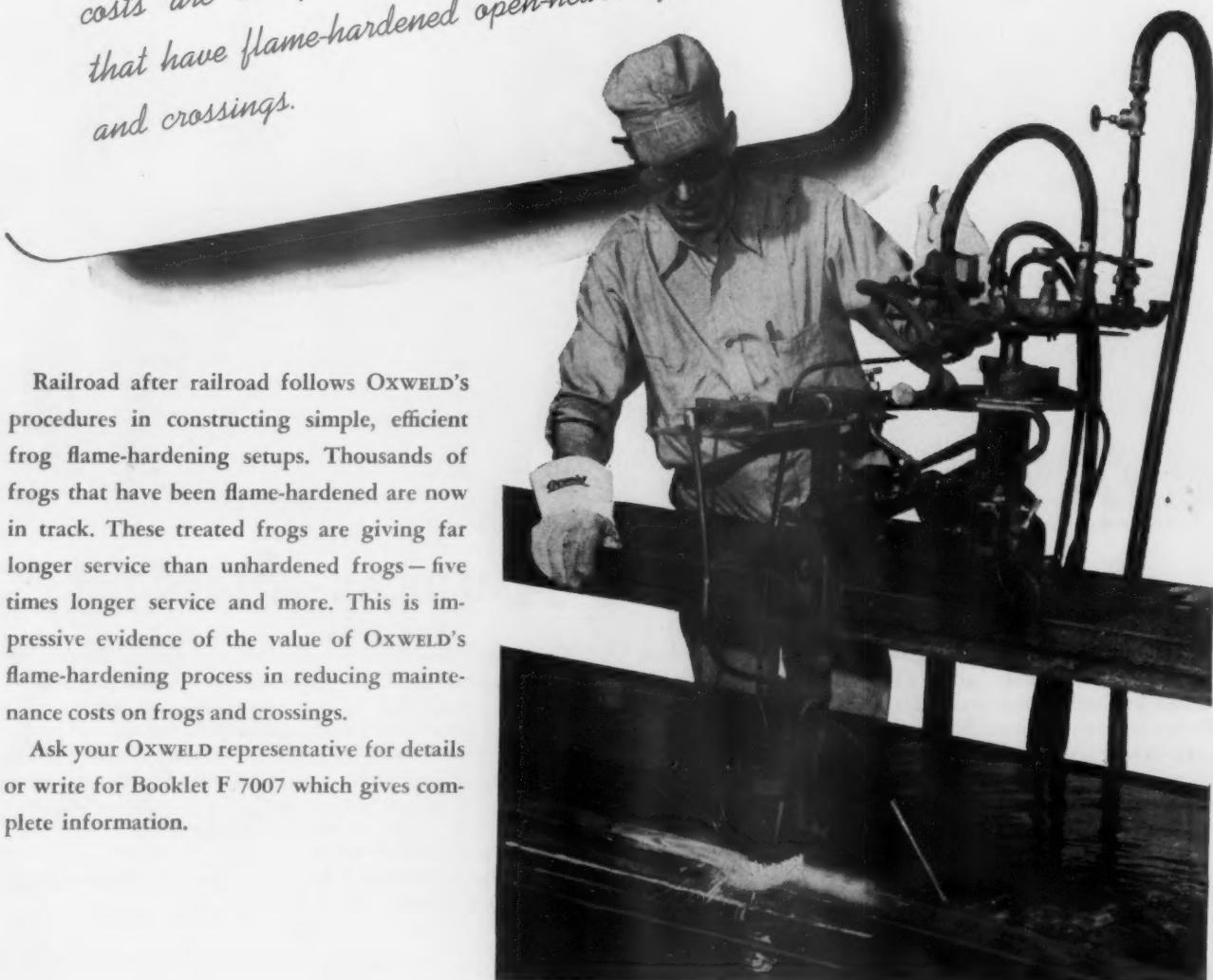
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Memorandum To:
ENGINEERING AND PURCHASING OFFICERS

Major savings in track maintenance costs are being made by many railroads that have flame-hardened open-hearth frogs and crossings.



Railroad after railroad follows OXWELD's procedures in constructing simple, efficient frog flame-hardening setups. Thousands of frogs that have been flame-hardened are now in track. These treated frogs are giving far longer service than unhardened frogs—five times longer service and more. This is impressive evidence of the value of OXWELD's flame-hardening process in reducing maintenance costs on frogs and crossings.

Ask your OXWELD representative for details or write for Booklet F 7007 which gives complete information.

THE OXWELD RAILROAD SERVICE COMPANY

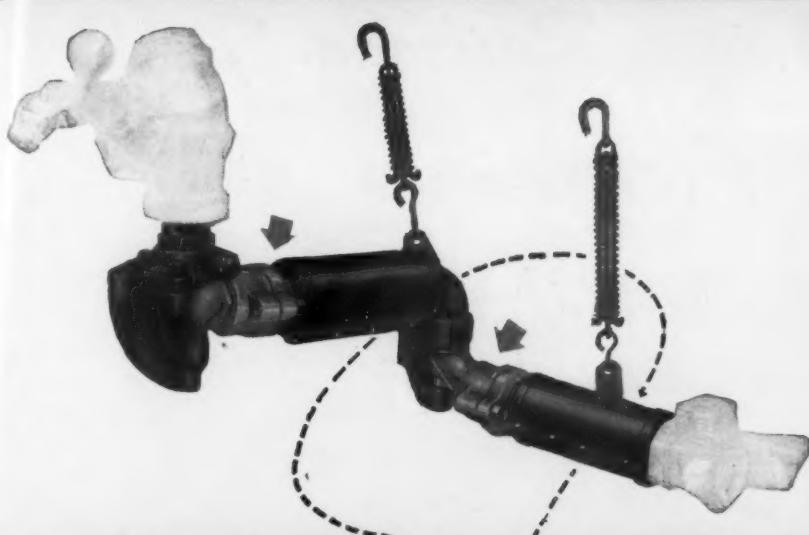
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UCC

Carbide and Carbon Building Chicago and New York
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Canadian Railroad Service Company, Limited, Toronto

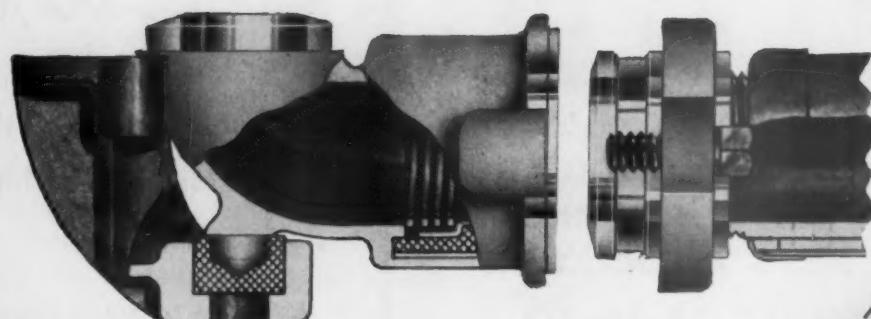


SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS



**new plated
bearing surface
on Vapor $2\frac{1}{2}$ "
metallic conduit**

- INCREASED GASKET LIFE • DECREASED CORROSION
- GREATER RUGGEDNESS AND LONGER SERVICE



Sketch shows cadmium plated bearing surfaces. Wearing parts and friction-points are plated to provide smooth friction-free contact.

An important improvement in Railroad's No. 1 Conduit! . . . New cadmium plated bearing surfaces eliminate friction at vital points—prolong gasket life, provide a more perfect seal, lower maintenance costs. Vapor Metallic Conduits withstand train line pressures up to full boiler pressure of locomotive or steam generator. Has full opening thruout in any position—offers minimum resistance to steam flow. Proven on thousands of cars with years of trouble-free service—now Vapor Metallic Conduit is better than ever!



VAPOR HEATING CORPORATION 80 East Jackson Blvd., Chicago 4, Illinois
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WHAT HAPPENED to a Railroad Tie WITHOUT any Tie Pad

PLATE LOCATION



This creosoted hardwood tie was installed on a main line curve on a grade without a pad beneath the tie plate. The photograph is of the inner end of the tie and shows plate cutting of .56 in. after 8 years of service.

-and WITH a Resilient Tie Pad

PLATE LOCATION



This creosoted hard wood tie was installed near the one above, with one of our resilient tie pads made of cotton and rubber used beneath the plate. The Photograph is of the inner end of the tie. Plate cutting amounted to only .06 in., a reduction in wear, from the tie shown above, of 89%, after 8 years of service.

**You Can See
THESE TWO TIES
at
THE TRACK SUPPLY ASSOCIATION
AND THE BRIDGE BUILDING &
SUPPLY MEN'S ASSOCIATION
SEPTEMBER 18-19-20
IN CHICAGO
Visit Our Booth
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On bridges, switches, curves and station track the use of Fabco Tie Pads is economically sound. No better method exists to prevent mechanical wear of ties, extend tie life and cut the high costs of tie maintenance.

Write for latest Information

**FABREEKA PRODUCTS COMPANY
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NEW YORK CHICAGO DETROIT
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OAKLAND, CALIF.

ON BRIDGES, SWITCHES, CURVES AND STATION TRACKS

**It Pays to Specify FABCO TIE PADS
WRITE US TODAY**



Yes, all the way from prairie to platter, your juicy steak depends on coal! First, coal provides the power for transportation and the heat and steam used in processing. Then it generates electricity to run the refrigeration equipment . . . and finally, chances are you *cook* your steak with gas or electricity generated from coal!

America's meat packers, alone, use more than 1½ million tons of coal a year. And, for the whole food industry, the total zooms to more than 12 million tons.

The food industry, like other big coal users—textiles, rubber, chemicals, steel and railroads—gets the particular kinds of coal which it requires. And America's progressive coal operators are continually seeking new ways to help their customers get even more heat and power from the coal they buy. To this end, they are investing huge sums of money in research, new mine properties, and new preparation plants.

Improved furnaces under America's newest industrial boilers today produce *four times* as much power per ton of coal as they did thirty years ago.

America's industrial progress has been built on coal. America's defense security depends on coal . . . as two world wars have clearly proved. To supply power, light and heat for the nation in war, coal is the only fuel in sufficient supply.

● *Coal seeks no special favors—needs no government interference—wants only fair competitive conditions. The continuing use of coal by American industry and in American homes will keep the industry vigorous and healthy—always ready and able to serve the nation.*

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BITUMINOUS COAL INSTITUTE
A DEPARTMENT OF NATIONAL COAL ASSOCIATION
WASHINGTON 5, D. C.

Faithful Servants!



LANTERNS

**give you Maximum Service
with Minimum Attention**

Adlake lanterns, kerosene or electric, are built for a lifetime of trouble-free service. And they provide it with an absolute minimum of attention, because they are sturdily constructed to withstand hard use.

Adlake Kero Lanterns' patented design makes them wind-proof and shockproof. Easy to light, easy to clean!

Adlake Electric Lanterns include patented features that insure long, worry-free operation: A troubleproof switch, a stainless steel reflector that never grows dull, and a combination of bulbs that give you a spotlight or a signal light at will! Over-all construction is made to "take it!"

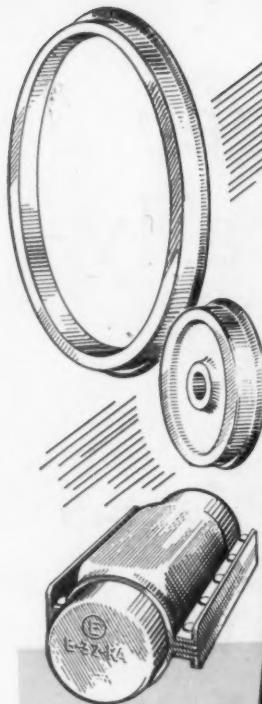
There's a complete line of Adlake crossing lamps, brakeman's lanterns, signal lamps for practically every railroad job. For details or prices on any or all of the many Adlake railroad specialties, address a post card today to 1109 N. Michigan, ELKHART, INDIANA.



KEROSENE

ELECTRIC





We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.



Watch for other railroad cartoons by Mr. Hungerford

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**ROLLED STEEL TIRES
ROLLED STEEL WHEELS
DRAFT GEARS**



Detect hot box danger automatically— instantly



Typical THERMOSWITCH® and Cable installation. Low-cost main-
tenance — requires no special knowledge or equipment.



Control panel unit provides immediate detection and location of overheated bearing. Switches are numbered to correspond with wheel number of car.

with Fenwal **JOURN-A-LARM** System

APPROVED BY LEADING RAILROADS. The Fenwal JOURN-A-LARM System automatically detects and warns of hot box danger. A mere flip of a switch on the JOURN-A-LARM control box in the car instantly identifies the overheated bearing. Eliminates need for train crews to check individual bearings *outside* the car.

This unusual system — continually monitored through a failproof circuit — automatically gives a visible, audible warning inside the car when bearing heat exceeds specified temperature. Nerve centers of the JOURN-A-LARM are the Fenwal THERMOSWITCH® thermostats located in each bearing. Unique, highly sensitive, vibration-proof THERMOSWITCH mechanism assures positive action under every operating condition.

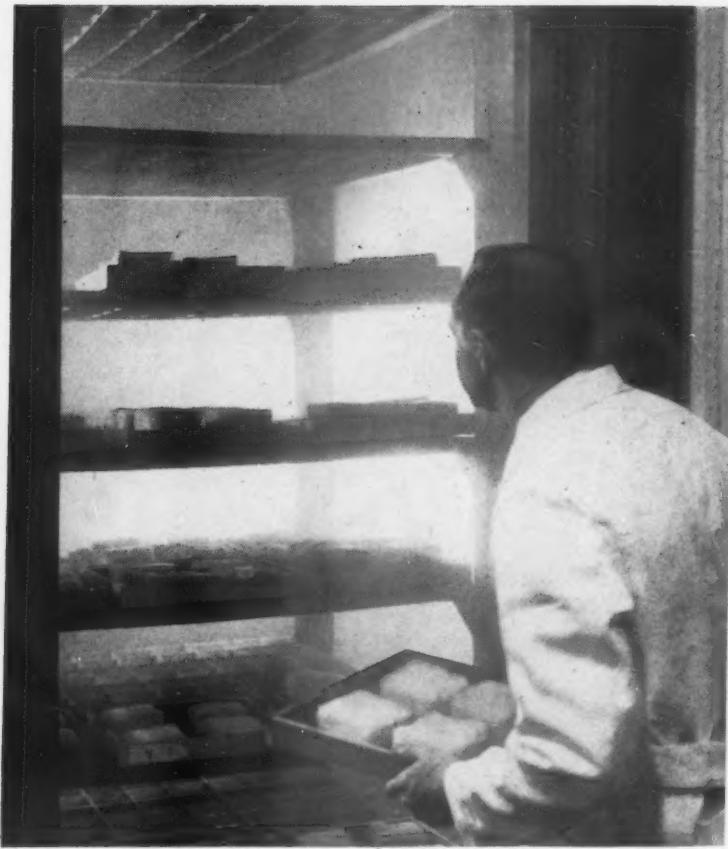
Fenwal THERMOSWITCH thermostats are also used for Car Heating, Air Conditioning, Diesel Overheat Detection. Write for bulletin. Fenwal Incorporated, 179 Pleasant Street, Ashland, Mass.; 11 South Burlington Ave., Los Angeles 4, Cal.

Fenwal

Temperature Control Engineers

JOURN-A-LARM

SENSITIVE . . . but only to heat



In this weathering room hot, dry, cold and wet conditions are automatically alternated to accelerate aging.

where **INSULATION is Food for Thought**

Looks like an oven full of cakes, but it isn't. It's a weathering chamber testing glass fiber insulation. Here time passes thirty times faster than normal—in order that time shall stand still in refrigerated transport.

This "torture room" is one of many test devices used at the Fiberglas Research Laboratories. Here "candidate" insulation products of glass fiber are proved. Here the glass fiber of Owens-Corning Fiberglas Corporation is certified as fit for fabrication by many manufacturers . . . fit to meet and exceed standards . . . fit to help America live better.

No matter what insulation product you buy that contains a Fiberglas* material, the glass fiber used in it and its fabricated form have passed the test of science and experience here at one of America's great industrial laboratories. For details and samples, phone or write Owens-Corning Fiberglas Corporation, Dept. 21-I2, Toledo 1, Ohio.

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*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.

FIBERGLAS IS IN YOUR LIFE...FOR GOOD!

Southern Pacific specifies Goodall Fabrics for luxurious Sunset Limited



★ Goodall for Upholstery ★ Goodall for Draperies ★ Goodall for Curtains ★ Goodall for Shades

Goodall Fabrics - Where durability and luxury are the keynote

Goodall Fabrics are famous for that renowned durability so favored by railroad men for nearly three quarters of a century. This skill in fabric construction, combined with luxurious beauty, was the specification Southern Pacific wrote and Goodall filled it. The result is modern decoration married to good old-fashioned long wear. On the Southern Pacific passengers ride on Goodall upholstery. Windows are framed with Goodall draperies. Window shades are Goodall, and so are room curtains. All Blended-for-Performance, each will give years of satisfaction and give Southern Pacific passengers a sense of contentment and relaxation.



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GOODALL FABRICS, INC. • NEW YORK • BOSTON • CHICAGO • DETROIT • SAN FRANCISCO • LOS ANGELES

a 10-year record of improved values

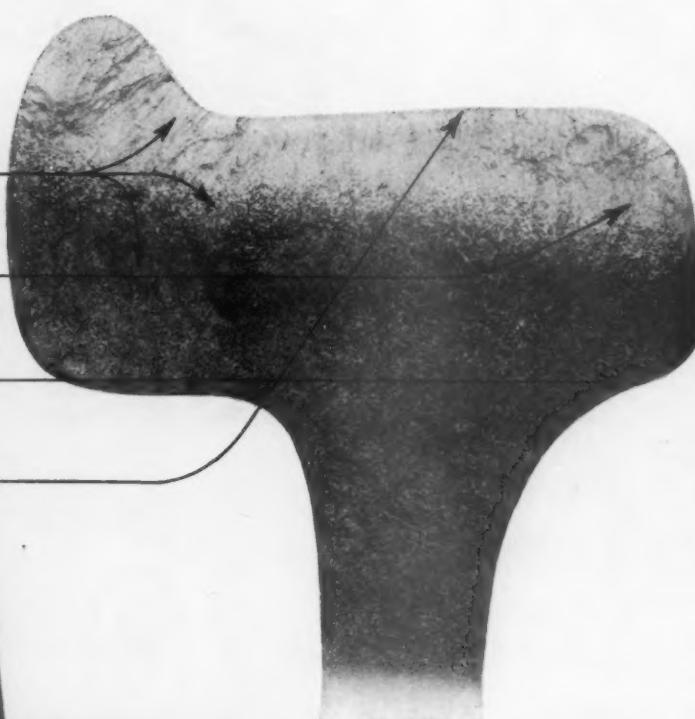
1941-1946 Improved Control of mottled iron formation, providing clearer chill at tread and more impact resistant gray iron backing.

1945 AMCCW plants adopt limitation on chill depth in rim.

1945 Rim thickness increased.

1947 More rigid inspection and standards for roundness adopted for wheels shipped from AMCCW plants.

1940-1950 Steady improvement in annealing practices, Association wheel inspection, supervision of detail by plant organizations.



INSIDE STORY...

of a chilled car wheel

These facts give you the inside story of why AMCCW wheels made the best safety record ever in 1949 . . . 150,000,000 freight car miles per failure!

They show why chilled car wheel performance has improved continuously, over the years.

They tell why AMCCW car wheels *continue* to show improvement in safety, year by year, as the record unfolds.

They explain how quality is increasing, even as costs go down.

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

445 North Sacramento Boulevard, Chicago 12, Ill.

American Car & Foundry Co. • Southern Wheel (American Brake Shoe Co.)
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- Low first cost
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BOWSER
ESTABLISHED 1885

SERV-A-TRAIN

DIESEL FUELING

For
• Switchers
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and other Diesel
powered Equipment

ECONOMICAL AND EFFICIENT

This compact unit for trackside fueling in yards and branch terminals contains all equipment necessary for low-cost, efficient dispensing and filtration of either diesel fuel, lubricating oil or gasoline.

Many users report more work-hours per day from their switchers as a direct result of this convenient, on-the-job fueling unit.

ACCURATE MEASUREMENT—CLEAN FUEL

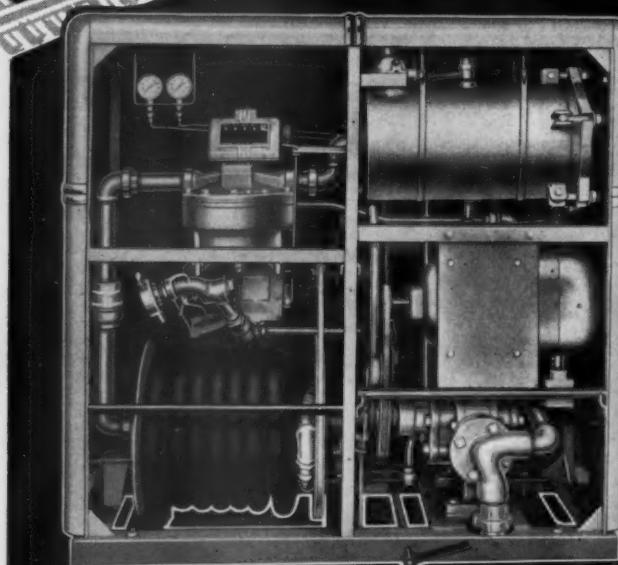
Precision accuracy of measurement is assured by the famous Bowser Xacto meter. Every drop is measured and registered on a dial. An automatic recording device is available as an accessory to print a verified slip showing the exact amount delivered.

Dirt or other particles as small as .00004 of an inch are effectively removed from fuel or lubricating oil with a Bowser expendable cartridge filter. This helps to minimize engine maintenance!

EASY TO INSTALL—SIMPLE TO OPERATE

The Bowser Serv-A-Train is as easy to install as a filling station pump. It's ready to operate as soon as supply and return lines—and electric power—are connected.

To operate Serv-A-Train you merely flip the switch that starts the pumping unit, pull out the hose, dispense the amount desired, step on the pedal to rewind the hose (power-driven reel) and then flip the switch to shut it off. That's really simple!



Bowser high-capacity diesel fueling and filtration systems for main line passenger and freight service are used by most American railroads. Efficient, time-saving equipment is also furnished for oil storage and barrel filling stations.

Please write for the new Bowser railroad equipment catalog.

Complete information on the Bowser Serv-A-Train will be sent promptly on request.

BOWSER, INC., 1321 Creighton Ave., FORT WAYNE 2, IND.
RAILROAD REPRESENTATIVES IN PRINCIPAL CITIES

LIQUID CONTROL SPECIALISTS SINCE 1885

You asked for it... HERE IT IS—

AO's New
Metal Ful-Vue
Safety
GOGGLE!



HANDSOMER IN APPEARANCE • STRONGER IN STRUCTURE

With the introduction of the F4100 Metal Ful-Vue, AO's protection against the impact of flying particles reaches its highest development. Here in one goggle, with or without side shields, workers can obtain the peace of mind which comes from assured safety . . . the utmost in comfort over nose and temples . . . the very finest in EYE APPEAL PLUS EYE PROTECTION!



SOUTHBRIIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

QUICK FACTS

NEW EYEWIRE — A major contribution to looks with strength. Outer edges are square instead of round with a deep groove to hold lenses securely in place. Beaded engraving adds a distinctive touch. The lightweight eyewire is strong and durable.

NEW RUGGED ENDPIECE — Streamlined . . . with a wide bearing surface at hinge which minimizes temple drop. Screw heads are countersunk and flush with endpieces for added good looks, non-sagging security.

NEW LIGHTWEIGHT TEMPLE — Oval temples instead of round for greater comfort and attractiveness. Easily adjusted, perspiration proof. Insulated semi or half tubing is another appearance improver and will outlast life of the temple. Tubing will not come off and it can't be discolored by dirt or grease. Both the temple and endpiece screws are AO patented "Ever-tite" construction . . . they keep tight in service yet remove quickly when replacing lenses.

IMPROVED GUARD ARMS AND BRIDGE — Guard Arms are newly shaped — longer with more opening for added ease of adjustment. The bridge is double braced with four contact joints—a feature found only in AO Ful-Vue spectacle goggles.

NEW SIDE SHIELD CONSTRUCTION — A real time saver . . . new one-piece binder and eyewire construction eliminates necessity of inserting the screen before inserting lenses! Replacement of lenses can now be made without any interference with or from the side shield. For these and many other reasons, be sure to see the new F4100, YOUR NEAREST AO SAFETY REPRESENTATIVE CAN SUPPLY YOU.



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"WORKING CONDITIONS" OF RAILWAY OFFICERS—HOW MAY THEY BE IMPROVED?

Railway officers might be pardoned if, now and then, they should take a little time off from worrying about the welfare of shippers, employees, security owners and the national welfare, and use the brief respite in contemplating their own pay, status and "working conditions." Over in Britain, the Railway Gazette recently computed the rise in railway officers' pay over the last decade—in relation to higher living costs and higher taxes—and showed that, in purchasing power, the substantially increased salaries actually represent a sharp decline in railway officers' standard of living. In this country, even without socialization of the railroads, a similar decline could be shown, especially in the so-called "higher brackets."

Breaking the Circle

This condition is not a healthy one for the industry—omitting any consideration of its effect on the officers themselves—because other industries, more prosperous than the railroads have been, are bidding for the same limited supply of managerial talent that the railroads are seeking, and the railroads will not get their share of the supply unless they meet the inducements proffered by the competition.

Such a situation as this could develop into a "vicious circle"—where an inadequate inflow of competent new talent to replace that lost by death and retirement would further restrict earnings and make the payment of competitively attractive salaries still more difficult. Some place must be found where the developing "circle" can be broken into—and what place gives more promise in this direction than that of careful selection and intensive training of existing candidates for promotion into responsible positions?

No amount of education or training, of course, will make a genius out of a man of only average talents—but such training will, at least, insure that even modest abilities are utilized to the full, and are not wasted or misused. Educational effort can take the performance of the most highly skilled and make such performance the average, rather than the exception, throughout the organization. Such improved average performance in supervisory positions would automatically increase earnings and hence the ability of the employer to pay more attractive salaries in these positions, and thus improve the industry's competitive advantages in recruiting competent men.

A thorough student of modern managerial practice, Peter F. Drucker, whose penetrating observations have

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been frequently cited in these pages, lays great emphasis on the duty of management to provide adequately for its successors — not leaving their selection and education largely to chance. It is not merely a question of seeing that candidates for promotion to higher positions are competent at their day-by-day duties, such as clearing wrecks or distributing cars efficiently, but that they have their eyes opened to the external influences that the industry has to look out for if it is going to stay in business and prosper. Who, for instance, can doubt that the railroads would today be in a far happier position than they are competitively if the foresight of some of the great leaders of the industry in the early '20's about what was likely to happen in this direction had become more common knowledge, and had been acted upon in time?

This paper derives no satisfaction or comfort in seeing such relatively trivial businesses as the manufacture of fancy underwear and cosmetics regularly paying their top personnel higher salaries than those which the railroads can offer to men with responsibilities for the performance of thousands of skilled employees, engaged in important national service. There are no positions of more significance to the future of the country than those at the top of the nation's heavy, mass-production industry, including the railroads. The very best available talent must be attracted to fill those positions, or this country's industrial and economic pre-eminence — and hence its military security — is endangered. Until comparatively recently, these positions undoubtedly did command the highest salaries, but with the mass following which the entertainment business and consumers' goods trades have attracted, the rewards of the popular actor or business leader with box-office appeal will more often than not surpass those of the solid performer in industrial management.

No Higher Duty

Management has no higher duty, not just in its own selfish interest, but in that of the whole country, than to seek to maintain at the top of the economic scale salaries and "working conditions" of managerial positions. In no other way can assurance be given that the most competent people will be attracted to these jobs. And top-level pay is hard to earn or to justify unless the candidates for such positions have been carefully selected, and are rigorously conditioned by intensive training so that superior pay will be accompanied by obviously superior service. Can a responsible officer on a railroad or in other vital industry be wholly satisfied with his career, however brilliant otherwise, unless he has trained a successor for himself much more thoroughly than he himself was ever trained?

In a big business, the difference in performance between the best man for a given position of leadership, and the next-best, may easily mean the difference between several million dollars in net earnings for the owners of the business. More important, even, than that consideration is the fact that superior performance in the position

of leadership may mean economy and efficiency of production which will assure the national safety. A man to take such a job might be obtained for a few thousand dollars less in salary, but it would be a saving effected at terrible cost to the owners of the property, as well as to the nation as a whole. The interest of employees in being led by the most capable talent that attractive salaries can retain ought to be obvious, but very frequently is not. The well-led industry is certainly more likely to provide job-security, and more likely to be able to pay high wages without accompanying lay-offs, than one with leaders who are underpaid and discouraged.

Most important executives and other officers of railroads and other industry are, by now, thoroughly "sold" on explaining to the public the important role of stockholders and investors in a free-enterprise economy. Not so many of them yet realize that the position of management, and the vital function it performs, is probably even less generally understood than that of the investor. No manager can with good grace publicly praise his own performance, but he can accomplish the same result — greater public appreciation of the management function — by the care he exercises in selecting and training recruits for managerial positions, accompanied by suitable publicity for the operation of this process. There might be less envy and more appreciation of these positions, if there were wider knowledge of the rigorous apprenticeship to which those attaining them must subject themselves.

ADVISES TRUCKERS TO "RETAIN" ENGINEERING PROFS

A printed circular, addressed by a vice-president of the Fruehauf Trailer Company "to state trucking associations and other friends of motor transport," has come our way. It conveys a very pointed suggestion in political strategy, the import of which is clearly indicated in the following quotations:

"Sixteen years ago, Harvey C. Fruehauf and the writer made a visit to the School of Engineering at the University of Michigan, Ann Arbor. Then, as now, the motor transport industry had legislative difficulties to overcome. Mr. Fruehauf felt the need for engineering facts and figures having to do with highways and highway haulage. He realized that it was necessary for us to get the truth about many of the controversial questions then before us — and he wanted to keep on getting the truth from impartial, unbiased and authoritative scientific sources.

"So, we did the natural thing at that time. We went to the authorities at our state university and we met John S. Worley, who was in charge of transportation engineering. He listened to Mr. Fruehauf's explanation of the situation — then stated that he had no special interest in motor transport or any other form of transportation, and was concerned only in serving the public interest. Thus began an association with John Worley and other members of the School of Engineering at the University

of Michigan—an association which has been carried on through the years. . . .

"Why isn't it a good idea for the motor transport interests in each state to go to the engineering authorities who may be connected with their state colleges and universities? . . . Why not get well acquainted with these engineers and retain their services to assist you by advice and counsel in meeting the problems that now confront operators of motor trucks in each state?"

Comment is superfluous when both past performance and intent for the future are revealed with such candor.

IS THE RAILROAD INSPECTOR NECESSARY?

A time-honored practice long followed by the railroads has been to place inspectors in the plants of companies building cars and locomotives. For almost as long a time there have been those who ask if the detailed checking by the railroad inspector of every part and every step involved in the building of equipment is a necessary operation, or even a desirable one.

It is, of course, clear that placing a railroad inspector in the builder's plant has certain advantages both to the railroad and the builder. An extra pair of eyes is available to catch defects that might otherwise have caused failures in service at some later date. The builder is relieved of a certain amount of responsibility once the railroad inspector has either passed a part or has not condemned it. The question is not, therefore, whether the inspector serves a useful function or not; he undoubtedly does. The important matter to be decided is whether the money spent on maintaining a railroad inspection staff might not be spent more usefully on some other venture, or whether the objective of the railroad inspector could not be attained at least as well by a less costly method.

Because it is virtually impossible for one man to be an expert on every part of a car or locomotive, as the case may be, the railroad inspector must be an all-around man rather than an expert on one or two parts. Because of limited detail knowledge of particular parts he is vulnerable to making one of two mistakes. He may overlook a defect which, though serious, is not readily visible. Or he may condemn a part for a minor defect that will have no functional effect. The latter is possible even where the inspector may realize that the defect is trivial, but hesitates to pass the part because his superior may think he was asleep at the switch. The net result is that production is delayed and cost increased.

Might it not be better for all concerned to work out a guarantee program that would eliminate the need for railroads to pull men off other jobs for months at a time to serve as inspectors? This is what the roads rely on when buying a fleet of trucks, for example. No need is felt for sending somebody to the plant to check the manufacture, and the arrangement has been satisfactory. The reputable manufacturer stands behind his guarantee simply because it is good business to do so. Might not a similar guarantee arrangement make a more satisfactory relationship between the railroad and its supplier than the present setup with its divided responsibility?

INDEX TO VOLUME 128

The index to the latest volume of *Railway Age*, January to June, 1950, is now ready for distribution, and copies may be obtained by those subscribers desiring them. Requests should be addressed to the Circulation Department, *Railway Age*, 30 Church street, New York 7. Subscribers who have in previous years made application for the index need not apply again; they will receive it as long as they continue to subscribe.

"When the people turn to political management of business the result is not merely less for more; it a *lot* less for a *lot* more. The story is always the same. . . .

"Government operation of coal mines in England, for example, is just one more tragic chapter in this modern epic of confusion. Granting that the British coal industry was never the finest example of private enterprise, how much better has been the magic touch of the politicians?

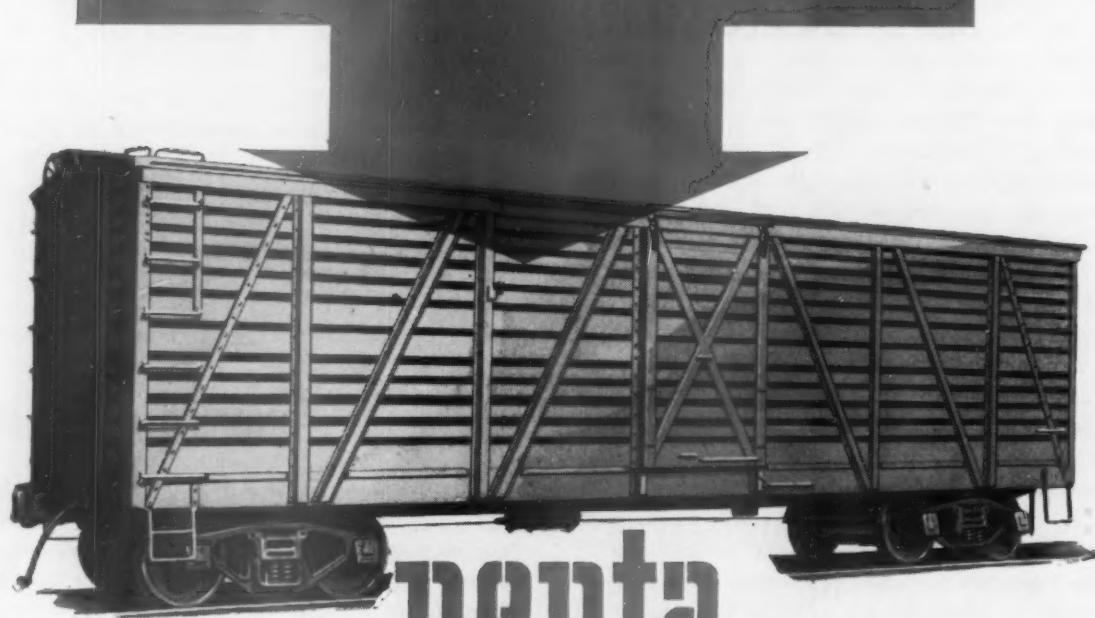
"Every pressure known to governmental power has been applied to this industry and its workers since the socialists took it over. Every device of persuasion and force has been brought to bear—even a form of that abomination, compulsory labor. The socialist planners were gleeful at the prospect of a fine showing here in coal, the heart of Britain's economy, where private management had not done too well. The dismal fact is that Britain's coal production today under the government is still far, far short of what it was under private ownership.

"American industry has been storming ahead so fast

under private management, in spite of all hobbles and handicaps, that the pre-war years already look like ancient history. Production figures of those days now seem almost laughable. But in England we have the spectacle of one of the world's great powers struggling desperately just to get abreast of antiquated pre-war records in its most vital industry. There you have a fine example of how state planning wins the abundant life for all. . . .

"We Americans owe it to ourselves and to the people of the world to keep our nation in political, economic and moral health. We owe it to our posterity to leave them the legacy that our forefathers left us, a land of opportunity and freedom, where the freedoms guaranteed by the Bill of Rights are not abridged, and economic freedoms are preserved; where we are free to choose what we shall devote our lives to and, having chosen, to keep a full measure of the rewards of our efforts. Let's work at it."—Robert W. Marshall, director, Traffic department, E. I. DuPont de Nemours & Co.

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WOOD PRESERVATIVE
FOR CAR LUMBER!



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PENTA protects ties!

Protect newly adzed tie surfaces with PENTA. Economical and easy to use, even in coldest weather.



A Three-in-One Type of Wheel Protection Tried on Diesel Locomotives

Controller developed by the American Brake Shoe Company protects locomotives from damage due to spinning, sliding or locking of wheels

A new type of American Brake Shoe Controller has been applied for test on Diesel-electric locomotives in revenue service on the Chicago & North Western, New York Central and Pennsylvania. Its performance is being followed by Association of American Railroads committees interested in the subject. The controller employs rotary switches mounted on the locomotive axles. Control starts the instant slipping begins, so that the protection or warning is immediate under all conditions. The controller circuit is independent of other equipment and functions even though the Diesel unit is cut out. The equipment will perform the following three functions: (a) detect spin promptly at all speeds and provide a circuit which can be used for correction; (b) detect slippage or sliding during braking and close warning circuit; and (c) give continuous warning if a wheel becomes locked, fuse fails or device is inadvertently shut off.

The operation of the device is based on the fact that the wheels in the same unit rotate at substantially the same speed unless there is slipping at the contact of the wheel with the rail. The instant slippage begins, the pairs of wheels will rotate with an abnormal difference in speed, signaling a need for correction. The control or warning will begin when there is 4- to 5-m.p.h. difference, regardless of the speed at which the locomotive is being operated.

The equipment required for the protection of Diesel wheels, Fig. 1, is the same for the A or B unit. The same

type equipment can be applied to a unit having four- or six-wheel trucks and is as follows: (a) rotary switch—one for each pair of wheels; (b) relay panel—one per unit; and (c) test switch—one or two per truck.

The rotary switch consists of a rotor (brush holder) which turns with the wheel and wipers brushes in contact with a stationary commutator. The switch generates no current; it functions to pass a circuit from battery to relay panel.

The rotary switch fits a standard mounting and drive on roller journals and is applied at one end of each axle.

It may be mounted on any of the several types of journal roller bearings when they are equipped with a mounting face and axle drive fittings. Illustrations show a typical rotary switch.

Relay Panel

The relay panel is connected to the battery on the unit and should be located in or near an electric locker. Rubber shockproof mountings are provided inside the panel box. Each relay is double contacted and protected by a metal guard. A light on the panel shows operations of the control circuit. A truck test switch simplifies routine inspection of American Brake Shoe equipment.

For purposes of illustration, the controller circuit is described as applied to a six-wheel truck. The rotation of wheels in the truck is compared as a basis of control



Rotary switches applied to motor-driven and idle axles of a 6-wheel truck on a Diesel-electric locomotive

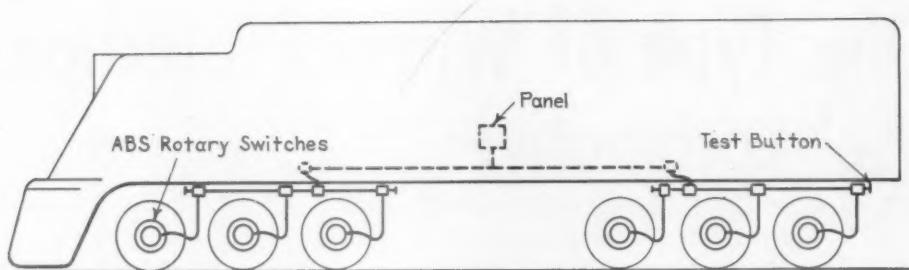


Fig. 1

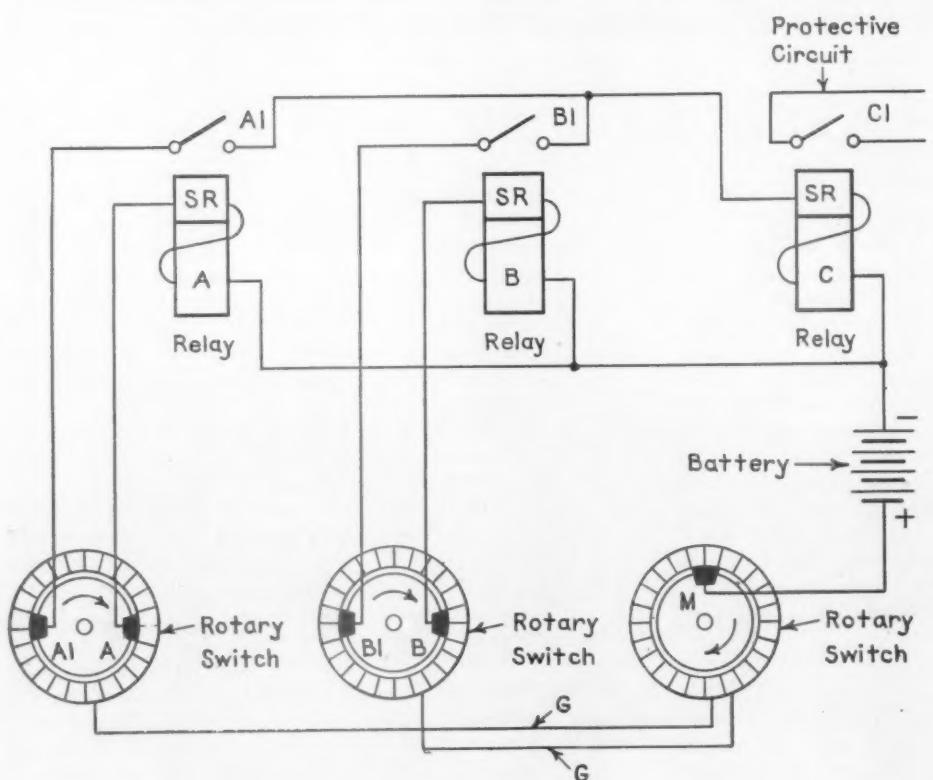


Fig. 2

and the device on each truck operates independently of the other. It will be noted that idler wheels, as well as driver wheels, are protected.

The principle is the same on Diesel units having two four-wheel trucks, except that the rotation of all wheels is compared and the device operates as if controlling an eight-wheel truck.

For Six-Wheel Trucks

The controller for a six-wheel truck, Fig. 2, consists of a rotary switch for each axle, plus a pair of timing relays, *A* and *B*, and a control relay, *C*, located on a panel in the electric locker. Each rotary switch has a rotor, driven by the axle, and wipes brushes in contact with a stationary commutator. The corresponding segments (bars) of each commutator, as partially shown by conductors *G*, are electrically connected, which makes each point (segment) on one commutator electrically the same as the corresponding point on the other. The rotors, therefore, are, in effect, rotating in cooperation with the same commutator so that a brush of one rotor is electrically connected to a brush of the other when the brushes are rotating in the same relative position.

The winding of timing relay *A* is connected to brush group *A* in one of the rotary switches and, similarly, the winding of an identical timing relay *B* is connected to brush group *B* in another of the rotary switches. The

battery is connected to a brush group, *M*, in the third rotary switch.* When brush group *M* is rotating in the relative position of a brush group, *A* or *B*, in one of the other switches, the timing relay connected to that brush group will operate, closing its contact *I*. Each timing relay is adjusted to delay its release for a fraction of a second after the brush groups have rotated from the relative (operate) position for that relay. It will be noted that contacts *I* of the relays *A* and *B* are connected to brush groups *A1* and *B1* in their respective rotary switches.

The spacing of the brush groups *A* and *A1*, also *B* and *B1*, is such that it is impossible to have a circuit completed through them at the same time.

In normal operation (no slippage of wheels) the relative rotation is slow enough for each timing relay to have released before brush *M* can rotate into alignment with the brush group *A1* or *B1* connected to contact *I*, and no operation will occur. However, when wheel slippage occurs, rapid relative rotation of the brushes will cause the circuit from the rotary switch to reach contact *I* before the timing relay has released. The circuit will then pass across contact *I* to operate the control relay *C* which operates the protective circuit.

When slippage is eliminated and normal rolling is restored, the timing relays will again be released before

*All rotary switches are identical and may be mounted at any axle on the unit. A single brush group, *M*, is shown in one rotary switch in Fig. 2.

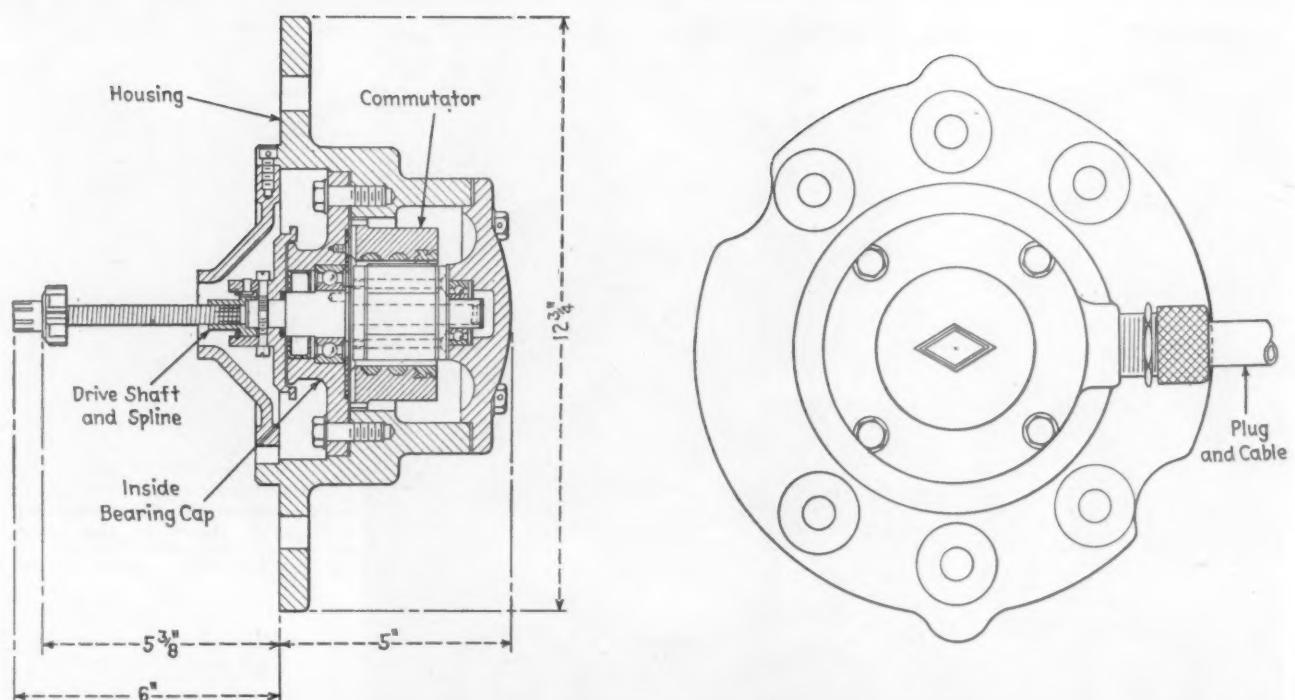
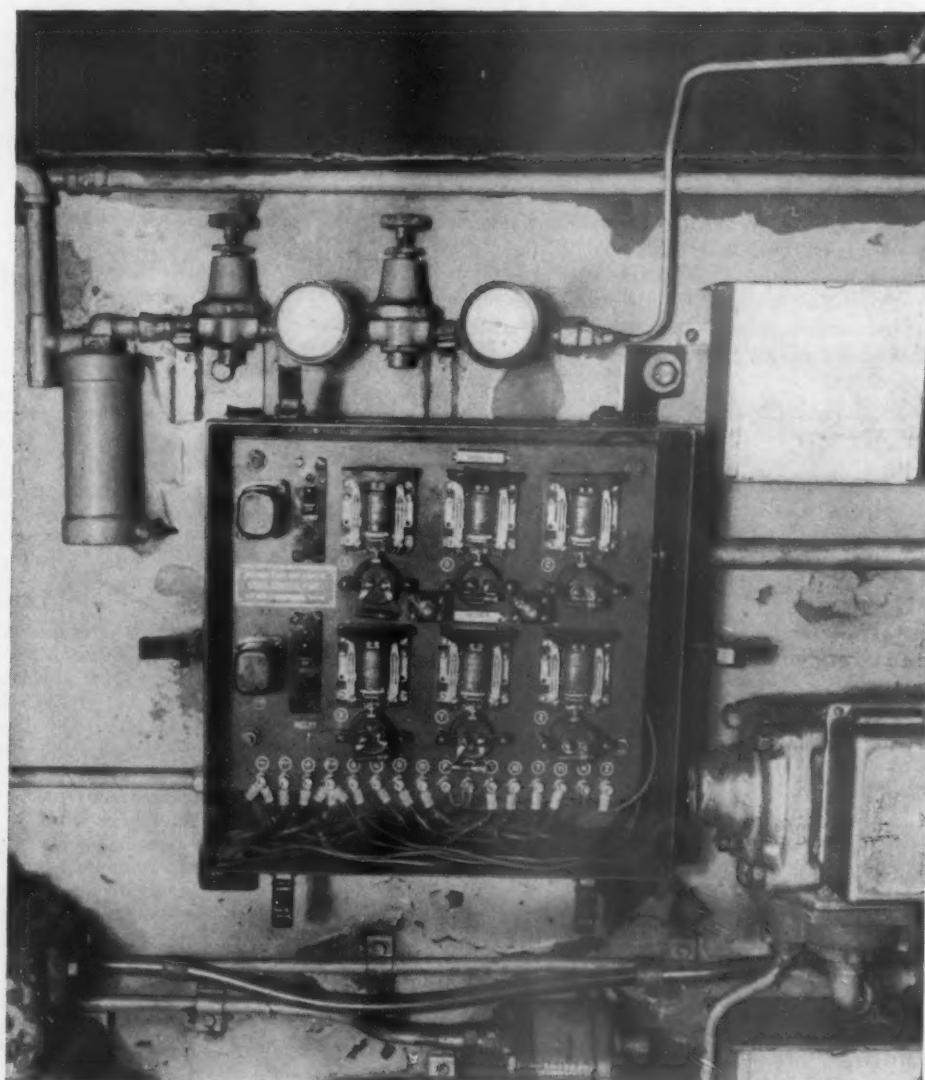
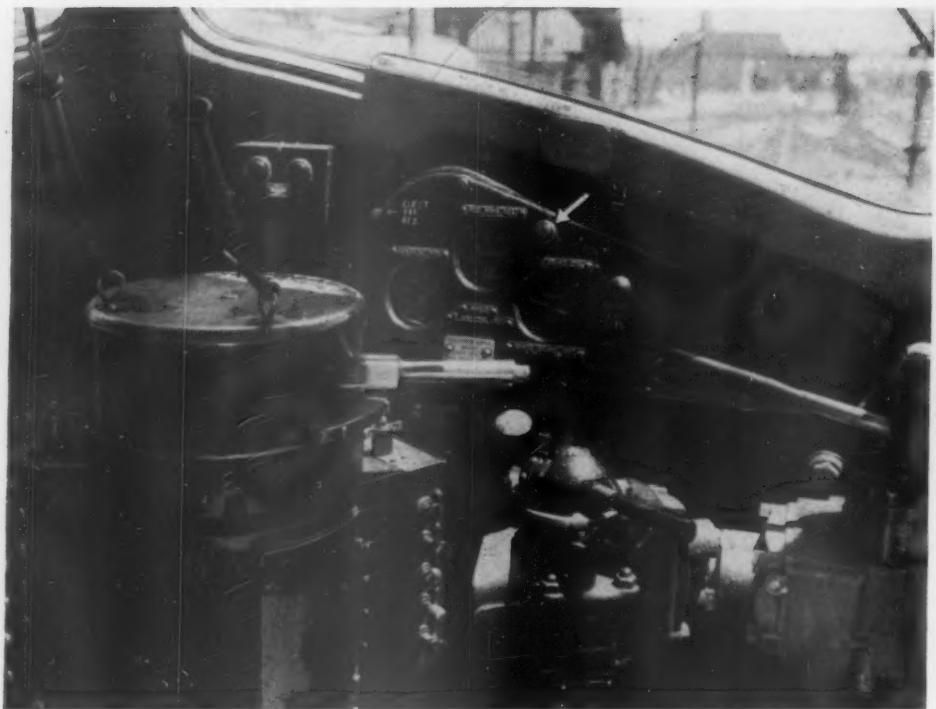


Fig. 3



Relay panel for a Diesel-electric locomotive with two 6-wheel trucks



Control position of one of the locomotives with the A. B. S. Controller — The indicating light is shown by the arrow

the circuit to contact *I* is closed. Therefore, relay *C* will automatically release as the protective circuit is no longer required. Two or three seconds are usually required for the entire control for a normal slippage of the wheels. Should the slippage continue for a period of time, indicating an abnormal condition, such as a locked wheel, the protecting circuit will become permanently operated by the action of a simple timing device (not shown on basic wiring diagram). A light on the panel box will indicate the unit in trouble. A manual reset is provided inside the panel box for clearing the protective circuit after an emergency warning.

The warning circuit also will be operated if a fuse fails or the device is inadvertently shut off.

The protective circuit from the American Brake Shoe Controller can be connected to the usual slip relay circuit and effect correction of spin through the operation of that circuit. The manner in which the connection is made should be in accordance with the recommendations of the Diesel locomotive builder.

When the equipment is connected in this manner, the existing wheel slip light in the cab will not only indicate each spin correction, but will also indicate slipping or sliding of locomotive wheels during braking. The light will remain on continuously if the American Brake Shoe Controller snaps to the emergency warning position. The circuit can be used to energize additional alarms or set the brakes if desired.

Communication . . .

Not All Wartime Government Officers Ignoramus

LENOIR, N. C.

TO THE EDITOR:

A feature article by Samuel O. Dunn in *Railway Age* of August 5, "What Experience Teaches About Freight Movement in War-Time," was very timely and no doubt most readers will agree with most of your statements.

Without any reference or inference as to politics, it appears doubtful that you could sustain some of your statements, for instance:

"No doubt, as in World War II, we will soon have a lot of government 'experts,' who do not know a railway from a hole in the ground, telling what the railways should do and what should be done for and to them. But what actually occurred during World War II proved that these government 'experts' were so wrong in every instance as to indicate that they were trying to sabotage the railways rather than to help them."

If there is any basis of fact for these statements it seems

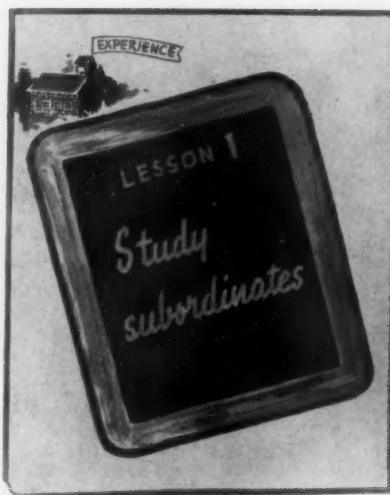
that even at this late date you should give some names or at least the government departments; that this is due our country, since we learn from experience. Plenty of criticism has been heard and some offered, but none has been heard as bitter as yours. Surely those working for the government were not utterly ignorant or wrong in every instance.

R. S. BOOTH

[Apparently it should have been explained in the article about which Mr. Booth complains that nothing said in it was meant to refer to what was done by Joseph B. Eastman, the first director of the Office of Defense Transportation, to Colonel J. Monroe Johnson, who succeeded him, or to members of their staffs. Both Mr. Eastman and Mr. Johnson did highly constructive work, as did members of their staffs, most of whom were men of railway experience.

The references made in the article to so-called "experts" were to men in other branches of the government, especially the War Production Board, who predicted huge car shortages, and advocated government purchase of equipment, then condemned the railways for not buying more equipment and finally wound up by restricting the acquisition by the railways of equipment and materials that they were able and anxious to buy, and had even ordered.

The writer of the article assumed, apparently incorrectly, that readers of *Railway Age* would know from the text of the article, the so-called "experts" to whom reference was made.—S.O.D.]



A capable boss searches for qualities in his workers that make them "tick"



Taking the measure of a man is a "must" if he is to work at peak efficiency



Warm relationships, born of being human and considerate, are a necessary goal

How to Make Successful Supervisors

By HARVEY C. MARMADUKE

Representative, Executive Department
Illinois Central

It has long been my feeling that too little time and down-to-earth thinking have been devoted to keeping the personal development of people in industry apace with technological progress. This feeling encouraged me to develop this presentation, which is entitled, "Supervision for Supervision." It is an account of my observations and experiences as well as the experiences of others, garnered in more than forty years in the business world.

Five Principal Lessons

What can be done to help men in positions of responsibility to acquire the super-vision they need as supervisors and leaders of people? My feeling is that the positive approach is to encourage the supervisor to study the lessons learned by his predecessors in the school of experience. There are five principal lessons to be learned, namely, (1) study subordinates, (2) be human and considerate of others, (3) delegate responsibility, (4) let others in on plans, and (5) make people want to do things.

Let's analyze these lessons one by one. For Lesson No. 1, study subordinates, our artist (see one of the charts) shows a supervisor literally taking the measure of a worker. If we are to get things done through people a continuous study of people is a "must" because they vary so widely.

Studying those around us will reveal that praise may spur one person to great heights. It may only inflate

This is an abstract of an illustrated lecture which Mr. Marmaduke has developed and is presenting both on and off the Illinois Central. It was enthusiastically received by members of the American Association of Railroad Superintendents at their annual convention in Chicago on June 7.

another. Constructive criticism is a tonic for another. There are those, too, who do not respond to either criticism or praise. The capable boss, in my opinion, hunts for the things that make his workers "tick," the things that will move them to greater heights of effectiveness. He searches beyond the immediate work situation, too, because people's motives and attitudes are conditioned by personal history and home life.

The supervisor will find that developing others to succeed him will redound to his credit. He should not get the notion that a supervisor must smother the abilities of others to succeed. I think it works just the opposite, and the degree to which we develop those around us reflects our own leadership abilities.

Become "Builder of Men"

The supervisor's goal should be to become a builder of men. I like to think of three men in my own experience who greatly influenced my life. The first man was the type who didn't want to use our ingenuity. He wanted to do all the thinking. He didn't want us to change a "t" or an "i". He never let us in on anything that went on or was going to happen. He seemed to be afraid to let us learn enough about the department to be of any real assistance to him.

The second fellow started at eight o'clock in the morning to put jobs on top of the bookcase to be done after supper or on Sunday. He showed great lack of organization ability.

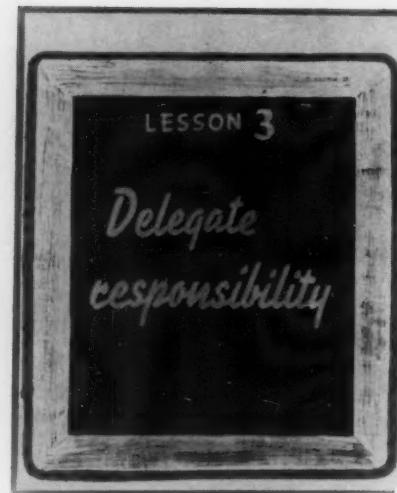
The last of the three was dishonest. I don't mean that he would take the silver out of my pocket. He was dis-



Studying and commanding a worker can bring surprising results and changes



The considerate supervisor takes a sincere interest in the workers' problems



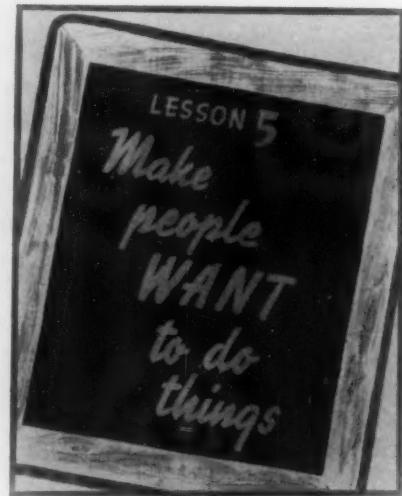
Learning to delegate responsibility is an important requisite of a good boss



It would be a mistake to lead the band and try to play all of the instruments



If others are allowed to take part in making changes things will go smoothly



Mark of a true leader is that he makes his workers want to follow his wishes



Men who are led, not driven, are more apt to show a desire to help the boss



The highest compliment a boss can earn is to be known as a "builder of men"



Give praise often, and in public, but criticism should be a private matter

Books Will Help

Mr. Marmaduke believes that the reading of good books is essential to being a successful supervisor. Three books that he has found particularly helpful are: "Developing Your Executive Ability," by Howard Smith; "Management Can Be Human," by Harvey Stowers; and "How to Avoid Work," by Dr. William J. Reilly.

honest in another way. He would make slight changes in the work of subordinates to get the credit for himself. He never took the trouble to find out whether a man's ideas were good. Everything had to be changed to put him in the best light with his bosses.

As I was coming along as a young fellow I saw nothing in these three men that I could copy and become a successful supervisor. This became more apparent as the years went along, and I came to the conclusion that a good plan for me to follow with any problem that arose would be to analyze it and think how these three men would have handled it and then do just the opposite.

The point, whether we recognize it or not, is that our workers and younger supervisors are using us as models. What we do and what we are has an important bearing on the lives of those we work with. So let's remember that the greatest compliment one can earn is to be known as "a builder of men."

How to Be Human

The keystone to building such a reputation is to be human in everyday situations. (Note the chart picturing a supervisor first studying and then commanding a worker.) This should be true in all our contacts with those above us and below us. In other words, live the Golden Rule. Unfortunately, we all are not warm-hearted by nature. It is hard for us even to be cordial to certain people and they in turn with us. We must recognize this and take steps to develop warm relationships with those around us. How? I do not know of a set formula. Among the accepted devices are to use first names, discuss hobbies and not too personal family matters and help workers over the rough spots. Sincere moves of this sort will pay dividends in friendship as well as in accomplishment.

The supervisor must learn to like people and seize every opportunity to take a sincere interest in the problems of his associates. This means that he will be considerate, which is the essence of being human.

Everyday consideration of others is reflected in the little things we do. The considerate boss is courteous to his workers and fellow supervisors. He makes his wishes known by requests or suggestions. He puts himself in the places of workers when making decisions affecting them. He treats their pride, personalities and self-respect as assets.

If it is necessary for a supervisor to criticize a subordinate this should be done in private, not in public. And most important, make the criticism constructive! On the other hand, praise should be given in public. Let the worker know how he is doing. Praise often, but sincerely! Never fail to recognize and give credit to the one who is responsible.

A most important part of a supervisor's development is learning to delegate responsibility. Never try to lead the band and play all the instruments.

Important to the successful delegation of responsibility

are (1) spelling out responsibility in a clear-cut manner, (2) fixing limits of authority, (3) keeping control, and (4) fixing standards. Delegating responsibility is a "must," and we are not good supervisors if we don't delegate, just as a man is not a good machinist if he cannot overhaul a machine. Unfortunately, this rule is frequently violated, with serious consequences.

The fourth lesson from the school of experience is the importance of letting others in on plans and programs. Of course there are certain things that cannot be discussed too far in advance. However, it is a good plan to discuss changes with those concerned before they are in final form. This makes them a part of the plans. Let others have a part in making changes and things will go smoother because they will assume a certain amount of personal responsibility for the success of the plan or program. Above all, give courteous hearing to the ideas of others.

I wish to emphasize that the supervisor should temper his decisions with the ideas of others. No one expects the boss to be infallible. He must be willing to change his mind. If he is wrong, admitting it will cause others to gain confidence in his fairness and honesty. Once subordinates know that the boss truly wants their thinking and ideas, they will be eager to help.

That brings us to the last of our five lessons—make people want to do things. What we must learn here is best said in the words of an eminent authority: "Workers want a boss who uses a baton—not a club. They want to be led—not driven. Some supervisors still believe the only way to get workers to do what they want them to do is to drive them. The 'get going, I'm boss—you'll do it my way or else' method will erase the supervisor from the business map faster than any other mistake he might make."

It is necessary to learn the true meaning of the word leadership. People do things reluctantly for the driver because he forces them, but enthusiastically for the true leader because he makes them want to follow his wishes. Frankly, I feel that following the previous lessons will make the accomplishment of this one a matter of course.

I wonder if it isn't a good idea for us all to make a mental check of ourselves once in awhile. I wonder if, as supervisors, we shouldn't stand up and take a walk around ourselves and see if we really are measuring up to the standards set for us. Are we alert and fair-minded? Are we developing our leadership abilities? I firmly believe that we all can benefit from a good, long look of self-appraisal.

Super-Vision Prescribed

If I were a great oculist, I think I could give people "super-vision" by prescribing a pair of bifocal glasses with the distance vision for looking ahead, for planning, and the short vision for the job to be done here and now. Of course he would be cautioned not to work with the vision out of focus.

Here are the ingredients I think I would write into this prescription. I would recommend that humanness, consideration and kindness be ground into the lenses. Then there would be an ingredient that would give the ability to delegate responsibility, and we could see the value of studying subordinates and letting others in on plans and programs.

Finally, I would have them grind into those lenses a permanent reminder that a good leader cracks no whip—jabs no needle. He gets things done through people by making people want to do things. These glasses, then, would give "super-vision" and insure a bright future.



Left—When a carload of drums is received, the drums are rolled from the car and picked up by the fork truck operator.



Right—The drum is taken to the pallet and set on the decking



Left—The operator then backs off a foot or so and raises the forks until the drum is tipped upright. Right—The same process is followed with the first three drums but the fourth must be floored off the pallet before the tipping operation



begins. Loaded pallets then are moved to storage. If they are to be shipped to outlying points steel strapping is placed around the drums to keep them on pallet during train movement

Fork Truck and Pallets Save Money for C.N.J. Stores Department

By G. R. MERRYMAN
General Storekeeper, Central of New Jersey

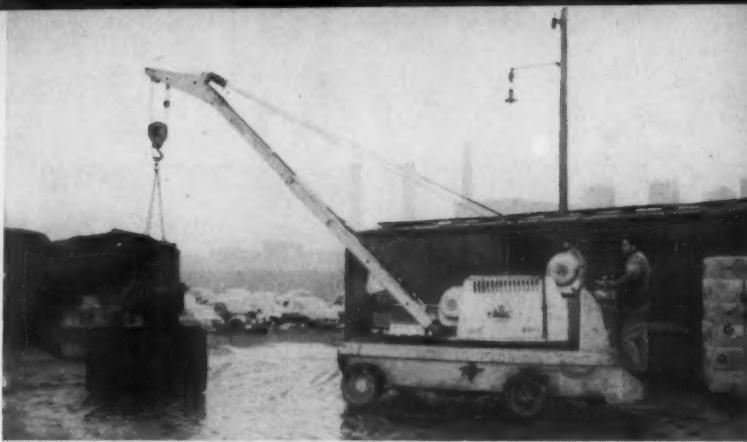


Despite the 40-hour week, which has made it necessary for the stores department of the Central of New Jersey to accomplish in 40 hours what had been done in 48 hours each week before September 1, 1949, we have had no force increases. We attribute most of our success in holding forces at last September's level, or below, primarily to our better utilization of mechanical handling equipment which had been installed some time ago.

Typical of operations which have saved many man-hours is our present method of handling drums of oil, fire clay, paint, etc. Five men used to handle this work, but now a fork truck operator and helper do the job. Draft gears and welding rod are palletized upon receipt at the general store and then moved to storage. Even in this palletization operation and the subsequent movement to storage time is saved, but the best savings come when we must reload cars for shipments to outlying

stores. The loading of palletized draft gears now consumes 8 hours less than did the old hand trucking method, while the new method of handling welding rod has cut 24 man-hours from our loading time.

Outlying stores palletize material being returned to the general store at Elizabethport, N. J. That procedure saves a manual handling at the general store. Obviously when several manual handlings are saved, the C.N.J. is really making a profit from its investment in handling equipment. We are endeavoring to persuade the manufacturers supplying us to palletize some materials for fork truck handling, so that more manual handlings may be averted. We believe such palletization is an advantage to the supplier also and therefore should be done at his expense. Once the supplier becomes aware of what this process may save for him we think we will achieve our desires.



Left—Draft gears are handled four at a time by a crane. Right—The handling of traction motors posed several problems. Cranes could not work in cars because of floor condi-



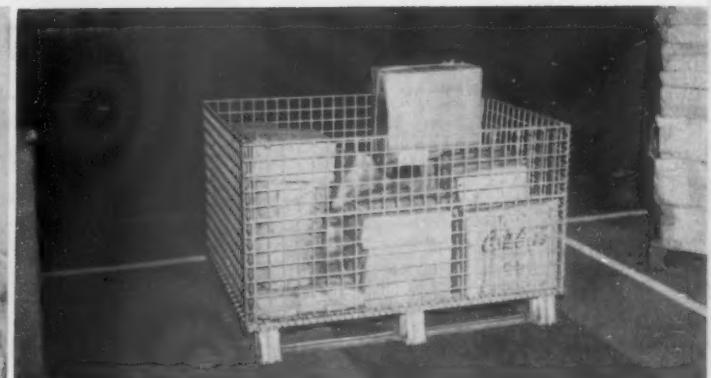
tions and the impossibility of raising the boom high enough. But by greasing the forks of the truck, the operator can get the forks under the skid on which the motor is mounted



Left—Palletized and skid-loaded material ready to be loaded for an outlying store. Right—A pallet load of paper towels on its way into the car



Left—A stores car partly loaded, with palletized drums in the background, brake shoes next and journal brasses nearest the doors. Right—Small shipments which will go directly to



C.N.J. points by passenger train are collected in "Cargo-tainers." Many time-consuming individual handlings are avoided

Left—A part of the palletized section of the warehouse. Placing the pallets in this manner made room for six stacks between the center aisle and the wall. Only five stacks could

be placed in this area when pallets were placed square to the wall. Right—Another palletized section of the warehouse





Passenger Development—Long Range

By acquainting a "lost generation" with rail travel, the Texas & Pacific hopes to encourage passenger patronage of the future

While Southwestern farmers cultivate cotton, sugar cane, tomatoes and watermelons, the Texas & Pacific is developing a new kind of crop—youngsters with the train-riding habit. The road's pay crop may not mature until 1960 or even later, but the seed is being sown now among school-age kids in every city and hamlet served by the 1,800-mile railroad from El Paso to New Orleans—youngsters whose natural interest in trains already exists.

Begun in 1947 on an experimental basis, T. & P. "Educational Tours" have grown with such rapidity that, in June, 1950, the figures already have passed the 5,000-passenger mark. That's twice as many youngsters as T. & P. had hauled up to that time last year in this undertaking. As for the future, available equipment seems to be the only limit. The plan has the backing and enthusiastic leadership of the road's president, W. G. Vollmer, who has spent four decades of watching passenger train income rise and fall like the tides. More than watching, waiting and praying are needed, he believes, to make that service a consistent paying proposition. A possible solution lies in an educational effort

such as the T. & P.'s long-range passenger development plan among school students.

Here's how the educational tour idea works: At a near-cost level, the T. & P. provides complete all-expense tours for school-age young folks to any point on the line where regular passenger service is maintained. Single movements under the tour plan are kept to a two or three-car maximum. All tours are handled on regularly scheduled passenger trains. Class sponsors accompany all tours. On the longer trips—for example, from West Texas towns to New Orleans—a passenger representative goes along to augment the regular train crews.

One passenger supply source which the T. & P. tapped successfully both in Texas and Louisiana this year was the high school seniors. Those in West Texas, for instance, had built senior trips into a school tradition, but the mode of transportation largely had been either bus or private automobile, and the jaunts had been short. This year was different. West Texas high school seniors in droves donned their blue jeans, boots and cowboy hats and descended on New Orleans via the T. & P. *en masse*. In May, the graduation month for many high

Left—Only one in ten have ever traveled in a train before, and even some of the accompanying teachers have admitted that their T. & P. tour was a "first"

Right—A new understanding, and a new interest in railroads are instilled in a "rubber tired" generation by a trip through the T. & P.'s locomotive shops at Fort Worth. From such youngsters may come much of the railroad's future traffic

Fort Worth Star-Telegram photo



schools, the West Texas crowd and those from Shreveport pushed the month's total to 2,859 student travelers in 58 separate tours. All available first-class equipment was in use and traffic personnel was taxed to a point reminiscent of war days. For a six-week period, between April 15 and June 15, at least one tour moved daily, and often the total reached four and five.

More than adolescent curiosity prompts many of the school-age trips. Most of the high school seniors who make the trips have earned the money themselves. One group of 21 West Texas seniors picked cotton after school to make the necessary money, and the principal came into the fields one Saturday to help, adding his earnings to the total fund. The spirit of cooperative money-raising was exhibited in some of the schools which hold plays, bazaars and rummage sales. And the students will go to almost any end to help one of their fellows who might miss the trip for one reason or another. One senior group, learning that a boy in the class was behind in his studies because he had been ill, set up a relay team of "tutors" which took assignments to and from his ranch home and helped him catch up. He passed and made the four-day trip to New Orleans and return in triumph.

West Texas youngsters, who board air-conditioned sleepers 800 or so miles from New Orleans, spend two days and a night sightseeing and eating Creole cooking in several of the city's French Quarter restaurants. This, plus food and sleeper accommodations and the 1,600-mile trip by rail, costs each youngster less than \$35.

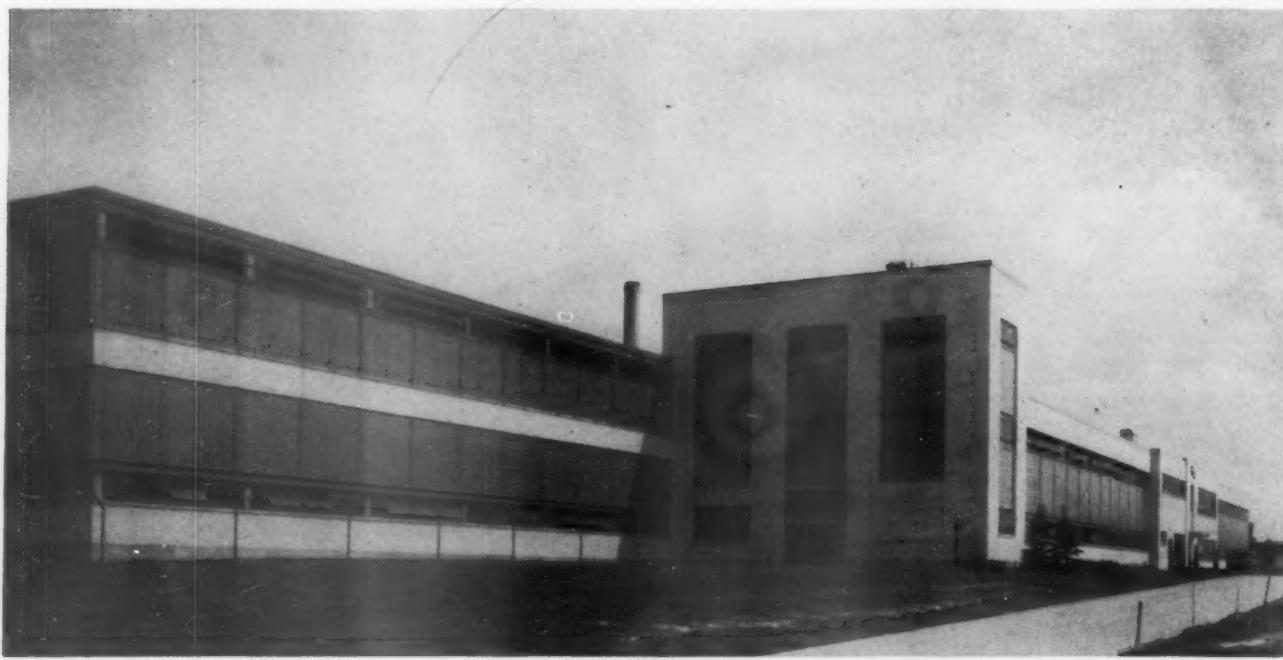
The T. & P. in its new role has learned to explain the fundamentals of train travel all over again. The railroad has found that its uninitiated customers of the future need to be shown how to manage themselves in a sleeper

berth and how to order in a diner. Some boys and girls at first say they have ridden trains before; later they admit it is their first trip. Almost 90 per cent of the passengers never before have been aboard a railroad train. One high school principal on a trip this season was making his first jaunt in a sleeping car.

But T. & P.'s educational tours aren't all "quickies" for cub scouts and similar small fry, nor the de luxe longer trip to New Orleans and intermediate points. Many junior high groups travel from relatively nearby points either to Marshall or Fort Worth, Tex., where the railroad's car and locomotive shops are located. They ride and dine on the railroad, then get a look behind the scenes to see for themselves how cars and engines are built and repaired. Retired T. & P. employees act as guides in the shop areas where safety for the youngsters is paramount.

This summer the T. & P. is writing follow-up letters to teachers and wrestling with the answer to the problem it faced this year and will next: how to spread the tour movements over a longer period so that it won't come to the point where some groups might have to be turned down. May is particularly heavy as the school year draws to a close. Even the expected summer respite is not materializing fully—this year school-age Sunday-school classes are seizing the tour idea and taking trips here and there.

Is there any tangible sign that T. & P. tour riders are getting the train-riding habit? The railroad likes to point to the remark of a Brownwood, Tex., youth, who on the return trip was detraining at Fort Worth alone to get back home. His principal suggested a bus might supply the most convenient schedule. Replied the youngster: "Bus nothing—I want to ride the train!"



Meadow Lands, Pa., plant of the Brake Shoe & Castings division of American Brake Shoe Company

The Social Responsibility of Management From the Viewpoint of Management

By WILLIAM B. GIVEN, Jr.
President, American Brake Shoe Company

To me management's social responsibility is, from every standpoint, the same as the individual's social responsibility. As president of Brake Shoe, and as Bill Given, I look through the same eyes and see the same objectives. The word "management" is a collective term for a group of individuals in positions with varying ranges of authority who work together. It is important to keep in mind that, today, management people generally own only a small interest in their companies. In other words, no matter what their titles, they are still only employees.

So, to me, the first question is: What are the social responsibilities of individuals—you, and me, and other people? Our first responsibility is, of course, to our families; after that, to our neighbors, to our community, and, just as definitely, to all others who can be affected by our decisions and actions. Each of us has the inherent obligation to put forth his or her best effort in trying to make life better for other people. Our individual social obligations are great.

Management's Main Function

The first job of management is to operate a business successfully. This is essential if it is to have an op-

This article is adapted from one of a series of lectures at New York University sponsored by the Edward L. Bernays' Foundation.

portunity to contribute to society. Management's greatest responsibility is to company people. A successful company is one which gives its people—those who work in it and its stockholders—more of the things they want in life, more security.

Many people still think of a business enterprise in terms of buildings, equipment, bank balances, stocks and bonds. These tangibles are merely its tools of trade. Actually, a company is a group of people working together. As a group, to be effective, they need a statement of objectives which clearly sets forth the end purposes—the long range objectives of the company. It helps to keep management people on the track. Obviously, if these objectives are sound, progress in them will benefit all company people. And this benefit will spread to company families, communities and the whole country.

Realizing this as an essential need, a dozen or more years ago we set out to crystallize the objectives for which our company was striving and for which, in my opinion, industry generally is striving. We finally reduced them to five simple statements — to make our company:

1. A better place to work
2. A better neighbor in our communities
3. A better company to invest in
4. A better company to sell to
5. A better company to buy from.

These statements hang on the walls of our plants and offices as a constant reminder to all of us. We try to live up to them. Progress is being made.

There are many aspects to be considered in making a company a better place to work. We in industry are deeply impressed with the importance of people. We realize that in developing a successful company, people play a more important part than plants, engineering, and research. They are even more important than sufficient money. With right people the rest will come. Without them, the tangibles have little value. Right people understand teamwork and the importance of all-out effort and enthusiasm in building a sound business.

To accumulate right people in the ranks of any organization is impossible unless those in supervision are fine human beings. That sounds hard to accomplish. It is—and it does take time. Any company which tries to have only such men in supervision takes the first step by eliminating those who do not qualify and filling the vacancies with others who do qualify. Such eliminations are a "must" if this purpose is real.

Who Belongs in Management?

The characteristics which make good bosses are the same qualities which make men good husbands, good fathers, good friends. These are the simple virtues—honesty, loyalty, moral courage, kindness, generosity. Men with these qualities are cause-minded. They know their contribution toward better products, toward lower costs and prices, toward improvements in working conditions, and all the other possibles to greater success, can and will build a better future for all concerned.

Old school business managers felt that everyone who worked for them was in their debt. Some even felt that the pay check was, at least in part, charity. Now we know that the opposite is true—that every company has a long-term debt to those who contribute to its success. Managers who are not realistic about this do not belong in today's management.

This is putting the emphasis where it belongs—on human relations—on the basis of the debt a company owes to the men and women who are endeavoring to make it successful. Just what is this obligation? If we analyze it, it is simple. It is exactly the same as the responsibility which flows from friendship. In time of trouble we turn to a friend, and if we have been right about his friendship we are not disappointed.

As a friend of company people and their families, we in business are trying to build so that they will turn to us in supervision whenever they are in trouble. We expect supervisors in every department to carry on so that their people will feel toward them as they feel toward their close friends. None qualify for supervisory positions whose day-to-day carry-on does not earn the confidence of their people.

This is not just sentiment. It is sound business for a company. It builds a proper basis of relationship between the company and its people. Friendship is the beginning of our social responsibility.

Every man's work attitude and effectiveness is related to his home and family, his environment, his personal philosophy, his economic situation and his happiness. Realizing this, management generally has come to think of its people, not in terms of the working day, but in terms of their whole lives. Largely, the labor turnover

in industry today is due not to persons seeking higher wages, but to their seeking satisfaction of their basic human needs and desires. It is management's responsibility to help fulfill these deeper needs and desires to the best of its ability.

Let me list some of the things which management believe they must provide if they are to contribute toward improvement of the standards of life in our country. These are things all of us search for in our lives:

Security of employment;
Retirement security;
Security against misfortune;
Healthy working conditions;
Opportunity for advancement;
Recognition and self-respect.

In spite of endless orations and many millions of printed words to the contrary, these are today the objectives of American management. There has never been a period in the country's history when the intentions of management were finer. Unprejudiced people know this to be true. The slanderers can be divided into two groups—those who do not know the facts, and those who prefer bating to building. These generally are people who seek the limelight—people who have no interest in how many are damaged in their attempts to make themselves conspicuous.

Our company, along with innumerable others, has been trying for years to better fulfill these human needs. And let me add that even if management were composed only of money-grubbers, it would follow these same policies because they pay dividends—both tangible and intangible.

What a Company Can Do

To explain these points, I want to mention some of the specific things we are doing.

Security of Employment. The original Brake Shoe Company came into being in 1902 by the consolidation of five small family-owned iron foundry companies. Their total value was \$1,000,000. Eighty-five percent of the products were sold to the railroads. Gradually our management realized that if the objective was the security of company people, the future should not be tied to the prosperity or depression of a single industry. Some progress was made in the early years. In the late 1920's we started, and since then have continued, an intensive program of diversification of products in order to broaden our markets. Our investment in research and engineering over the years since then has been large. Today about half of our sales dollar comes from general industry in all the other fields. This provides not only increased production but increased stability. We will continue trying to build greater employment security. That is both our social responsibility and our greatest social opportunity. And progress will contribute to earnings.

Retirement Security. In 1940 we adopted a contributory retirement plan for all employees. In addition to the costs of establishing the plan, the company assumed the large cost of funding the past service of employees. The plan is based on all of us participating on the same basis of length of service and rate of pay. It is interesting to note that throughout the eleven year period more than 85 per cent of our people have been members of this contributory plan. As far as practical, pension checks are sent to the plants for delivery in person by the plant superintendent or nurse. The pensioners know we are available in case of their illness or other troubles. There is proof of our interest in their welfare; that we still

think of them as members of our family. Every year each pensioner receives a Christmas present from his former plant or office.

The Power to Be Useful

Security Against Misfortune. Not only death but family illnesses, accidents, and other serious troubles come to most of us at some time in our lives. In Brake Shoe we help our people meet these emergencies through group life insurance, established in 1932, and accident and health insurance for them and their dependents. Furthermore, our plant superintendents have for use at their sole discretion a plant welfare fund in ready cash, as well as a company lawyer, doctor and nurse. Social responsibility is not met by good intentions alone. It is met by action, action in time. A family emergency is not helped because there is a law or regulation to meet it. The doctor, the nurse, the lawyer must arrive on time. Our plants and our offices are scattered all over this country. When there is trouble in a company family the local boss does not fill out some form and mail it to the county seat, the state capital, to Washington, or even to the New York office. He has full authority. The supervisor picks up the phone, gives the number of the doctor, nurse or lawyer and starts the rescue. He understands his responsibility, has the authority to act and gets a great kick out of his power to be useful.

Healthy Working Conditions. For many years we have realized that any amount of expense which makes a plant healthier and safer is a sound investment. We need not only better working conditions, but the best possible. There must be maximum freedom from accident hazards, a minimum of lifting and carrying, cleanliness, good light and air, proper temperatures, a clean and pleasant place to eat, good shower and locker rooms. These are the conditions that you and I would want were we working in a plant.

Industry has been spending millions of dollars, in fact, billions of dollars on better working conditions. It would help the understanding of business if more people realized that fact. In the last twenty years our company has scrapped 22 old plants and replaced them with modern buildings. We have been moving from big cities to smaller communities. Our people benefit. They can have healthier, happier lives. Their pay dollar buys more. The family is on a sounder footing. Such advantages increase the degree of company success in getting better people.

Also, very important in making life a better place for people, is a medical and industrial hygiene department. In our company each new employee receives a pre-placement physical examination. It is a fundamental responsibility to see that he is assigned to work for which he is physically fit.

Our industrial hygiene and safety people are constantly checking the plants for hazardous or unsafe conditions caused by dust, fumes, chemicals or other dangers. They also cooperate with local and state health departments in an effort to reduce air pollution in our communities.

Today, we have more people in our medical and hygiene department than we had in engineering twenty years ago—actually twice as many. Healthy working conditions are not only a responsibility of companies to their people, but a responsibility to society.

Opportunity for Advancement. For most people, this is high on their list of desires. Part of management's job is to help men who show initiative and zeal to qualify for advancement. There is daily proof that, with few exceptions, men are willing and anxious to deliver a

full day's production; that competent people generally prefer an incentive basis of pay. They want their pay envelope to reflect their skill and accomplishment. They want to see ahead a chance for promotion, a chance to have more of the things they want for their families. This is an historic American characteristic, one that has made possible our development. Doles and guarantees of security without effort can undermine sound traits of character. They can even undermine a nation.

There is still high pride in accomplishment. Management must find additional ways to encourage individual ambition and initiative. Building the individual is both an obligation and an opportunity.

Recognition and Self-Respect. Every one of us knows our personal need for self-respect and recognition. When plants were smaller, the bosses knew each man by name, knew his family, often chatted with him about his work, new orders, or talked with him generally about the company. This gave the man a feeling of personal importance.

Today's management is striving to return to this relationship of years ago in spite of the difficulties, obvious and great, in the large plants. We ask and expect foremen and supervisors to make an all-out effort to know their people on a personal basis.

Company magazines, reports, and management letters are being used more and more to assist in keeping employees informed about their company. Generally, these are mailed to their homes. Certainly, the worker is entitled to know the facts about the business, what the prospects are for the future, where the machine or product he is working on fits into the company operation or is used in industry. In most homes other members of the family are interested. Children exposed to such information approach their own work life with better understanding.

It is human nature for man to be restive when he is in the dark. For years I have preached that we must think and act in terms of individuals, not groups; that we are trying to build a human business on the basis of friendship and mutual confidence. Frank disclosure of all facts of interest is essential to accomplish this objective.

Community Obligations

Referring back to our company aims, the second objective was, "A better neighbor in the community." This is vitally important. Just as an individual cannot long hide his weaknesses from his neighbors, neither can a poor industrial citizen cover up its shortcomings.

An accurate measure of a company's progress in meeting its social responsibility is the opinion of the community. In small towns the preacher, the grocer, the taxi driver can help us estimate how the company's management meets these responsibilities. They know how workers feel toward their company. Normally, you find that if the family is proud of a man's job and the company he works for, the community also is proud of that company.

As a member of a community, a business must be public spirited, lend a shoulder to worthwhile community activities, help local institutions and causes. Company people should be encouraged and expected to contribute of their time and energy. Men who carry their share of community responsibilities grow, through those experiences, into better, stronger, more understanding members of their management — they become capable of accomplishing more in increasing company strength and their chance of advancement.

We should keep in mind that the managements of

Journal bearing inspection at the Niles, Ohio, plant of the National Bearing division of American Brake Shoe



companies which are owned by large numbers of stockholders have no right to give money to community causes unless there is a direct benefit to company people. We are employed to manage a business, not to make stockholders' charity contributions for them.

Giving to Red Cross during the war was a debt we owed to company people at home and in the services. Helping a local hospital is important to company people. Medical research into an occupational disease can have direct benefit.

There are many places where companies can give in the interest of their people and also contribute to the welfare of the community.

The third company aim, which is as important as any, is "A better company to invest in." The stocks of endless companies are widely held in small lots by people in all walks of life and of all income levels.

In our company no one individual or family has an important percentage of ownership. Neither do any of us in management have a large number of shares. Our dividend rate is of importance to thousands of families. The balance of the stock is held by insurance companies, banks, trusts and other institutions. Probably the interests of several million people are involved in these holdings.

Public Confidence Is Essential

This is usually referred to as private ownership. To me it is public ownership. People must realize that managers in jobs like mine do not work for banking interests, for a majority or for a minority group, for rich people or for self and family. We are in our positions by delegated public authority, expressed through proxies. It is a segment of the public which, through ownership of company stock, votes and chooses its directors. If the directors as such are not an asset to society, it is this public's job to put others in their place just as it is the public's job to replace a senator who does not back the legislation which contributes to society. The directors' job No. 1, in representing the public of stock

owners, is to see that the head man is qualified for his responsibilities. If he is not and directors do not remove him, they should be replaced.

Management is charged with the responsibility of providing a fair return on the money invested by the public. Also, and this is of vital importance, public confidence in the company is necessary if it is to be successful in raising additional funds when they are needed. If such funds are not available management is unable to meet its obligations to company people and society—in the extreme, may not be able to stay in business.

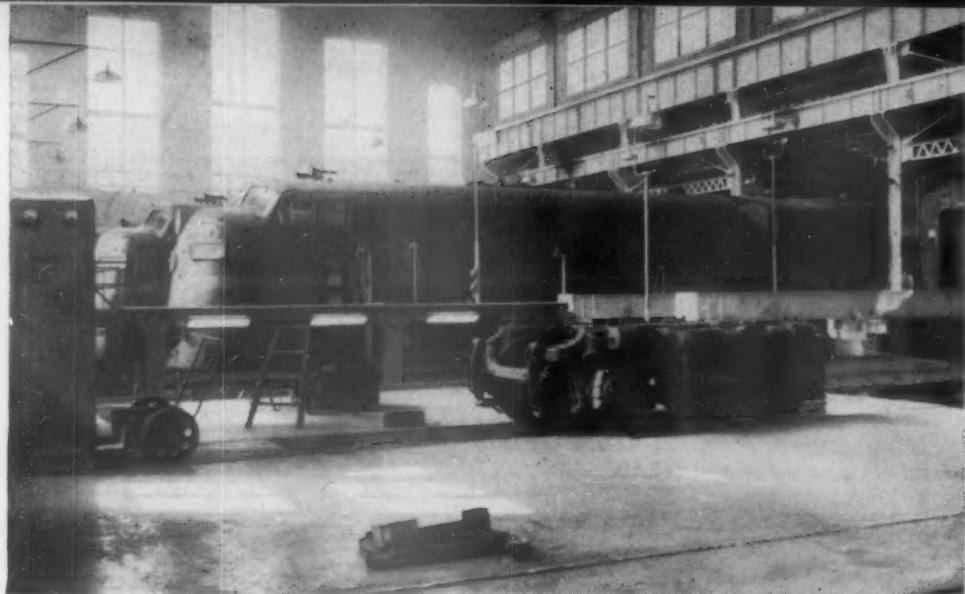
The fundamental justification for the existence and future continuance of a business must be based on its ability to contribute to the welfare and betterment of our country and the world, today and in the years to come. Management accepts this as its criterion.

Acceptance of a position in management entails acceptance of the social responsibilities which go with it. In the long run the future of any business—and of all business—will depend upon the kind of people in management more than on any other one element.

If we are to have the industrial relations we are trying to achieve in our country each and every man in management must be a decent, straightforward individual. His high pride must be in the contribution he makes to the lives of the people under him. He must know that it is always possible to increase the satisfaction people get out of their work. Such men willingly assume their social responsibilities.

In terms of generations, we are not in jobs of influence for very long. We must accept that as managers we are only links between the past and the future. But the fact that each of us is a link makes it important that we keep the long range opportunities in mind when we reach our desks each morning; that we weigh the problems we face in terms of the future rather than merely trying to find immediate solutions; that we go all-out to make our link in the chain as strong as possible.

Our success will be a matter of courage and sustained effort, of letting ourselves be more human than businessmen are supposed to be.



Looking toward the westerly portion of the existing steam locomotive repair shop at Oaklawn, Ill., after alterations had been made to convert it for the repair of Diesel locomotives

Diesels Repaired in Transverse Shop

Now 100-per cent Dieselized, the C.&E.I. has revamped a portion of its Oaklawn steam locomotive machine shop at Danville, Ill., to provide complete overhauling facilities for the new power

By June, 1950, the Chicago & Eastern Illinois had become completely Dieselized and its facilities for maintaining steam power at Oaklawn, Danville, Ill., were no longer required. Anticipating this change-over in the type of power, and to provide facilities for repairing and maintaining its fleet of Diesel units, the railroad converted the westerly portion of the existing shop at Oaklawn into a system Diesel repair shop, leaving the easterly portion available for making Diesel truck repairs, taking care of air brake equipment, and reclaiming Diesel parts.

Until this shop conversion was made at Oaklawn, the only facilities the railroad had for its Diesel power were servicing points at Chicago and St. Louis, Mo., and running-maintenance facilities at its Evansville (Ind.) terminal. The new repair shop at Oaklawn provides means for handling heavy repairs as well as running maintenance at a single centrally located point.

Transverse Feature Is Retained

What makes this shop conversion different from the usual revamping of repair facilities is that the existing steam locomotive repair shop was of the transverse type, served by a 60-ft. transfer table, and in converting the shop for handling Diesels the transverse feature has been retained. The building is a brick structure about 137 ft. wide and 619 ft. long, with its long dimension extending in an east-west direction. The transfer table is on the south side. The south 75 ft. of the width of the building consisted of a high bay extending its entire length, with transverse engine pits and tracks spaced 22 ft. apart. The northerly portion consisted of two low bays housing a machine shop.

A study revealed that it would be possible to construct a track layout so that Diesel units could enter the

north side of the building on four tracks at the westerly end of the building. It was decided, therefore, to take over about 260 ft. of the west end of the shop building for the new Diesel repair shop area and to construct a track layout so arranged that the road would not be too dependent upon the transfer table for getting the power units in and out of the shop. However, it was decided to extend the four new tracks entirely through the building so that the transfer table could be used as a standby means of access should the tracks on the north side be blocked.

It is anticipated that the four through tracks will be adequate to handle normal repairs and servicing of the Diesel units and that none of these tracks will be tied up more than a day for work on any one unit. In the event that more extensive repairs will necessitate that a unit be in the shop for several days, such as work involving the steam generator or the body, the unit can be moved on the transfer table to a track in the old portion of the shop.

The plan adopted for the new Diesel repair shop included the conventional cross-section arrangement with platforms at cab-floor level and with depressed working levels. The four through tracks were constructed at 22-ft. centers between which T-shaped reinforced concrete island platforms, 11 ft. wide, were built of monolithic construction. A Whiting 90-ton drop table with car body side supports was installed to serve one of the through tracks and two truck-release tracks. In the low bay area immediately east of the Diesel tracks a large electrical shop, an engine-repair room, and a stores room were constructed. In the high-bay area opposite these rooms, five tracks were provided, all of which are served by the transfer table. Three of these tracks have inspection pits.

All tracks inside the building are served by two

existing overhead cranes which travel the length of the high bay.

Other auxiliary facilities were provided at the west end of the building at cab-floor level. These include a room for reconditioning parts, a room for tools and supplies, a filter and parts-cleaning room, an office for the Diesel shop foreman, and a crew-dispatcher's office. Beneath this level a basement area was provided for the storage of parts, oil and other materials.

The rails of the through tracks are of 155-lb. section and are supported on large I-beam pedestals spaced about 5 ft. apart, thus affording access to the pits at any point along their lengths. The floor level of the pits and of the basement storage area was made 4 ft. below top of rail, while the floor levels under the island platforms are 2 ft. 6 in. below the top of rail.

All Levels Accessible to Trucks

A feature of the shop is that platform tractors and trailers have access to all levels. Outside ramps were constructed at the end of the building to reach the basement level and the floor level overhead. Portable platforms, 6 ft. wide by 11 ft. long, were provided on the transfer-table side of the building to bridge the gaps between the island platforms. These platforms are of channel sections with steel grating decks. Hooks permit the platforms to be lifted by the overhead cranes.

A small ramp was constructed to connect the basement level with the depressed-floor level, and a 4-ft. 6-in. truck passageway was provided at the south ends of the through-track pits, directly beneath the portable platforms. The rails of the through tracks over this truck passageway consist of short pieces that can be removed to permit trucks to pass. Another ramp was constructed at the end of this passageway to connect the depressed floor with the shop floor at top-of-rail level. With this arrangement, tractors and trailers can travel to any point on or under the platforms from any point in the shop or outdoors.

Motor-driven Kinnear steel overhead rolling doors were installed in the four engine doorways on the north side of the building. These doors are equipped with positive controls so they can be stopped at any intermediate position while being raised or lowered, thereby reducing the hazard of personal injuries and also of damage to equipment and to the doors themselves. The existing bifold-type doors on the transfer-table side were retained.

The usual outlets for electric power, air, high-pressure steam and water were provided. Both raw and treated water were made available. Drain lines for lubricating oil were installed at each pit with inlet plugs liberally located throughout their lengths. The used oil is drained into an outside undertank and is not processed for reclamation. Since three different lubricating oils are being used at present in the road's fleet of Diesels, no provision was made for piping these oils to the pits.

The electrical shop was made about 59 ft. by 66 ft. in size, and an office was partitioned off in one corner for the foreman. To serve the varnishing oven, bench grinders, buffers, drills, lathe, work benches, and a Bear balancing machine with which the electrical shop was equipped, a ½-ton air hoist on a 14-ft. jib crane, and a chain hoist on a monorail, were installed.

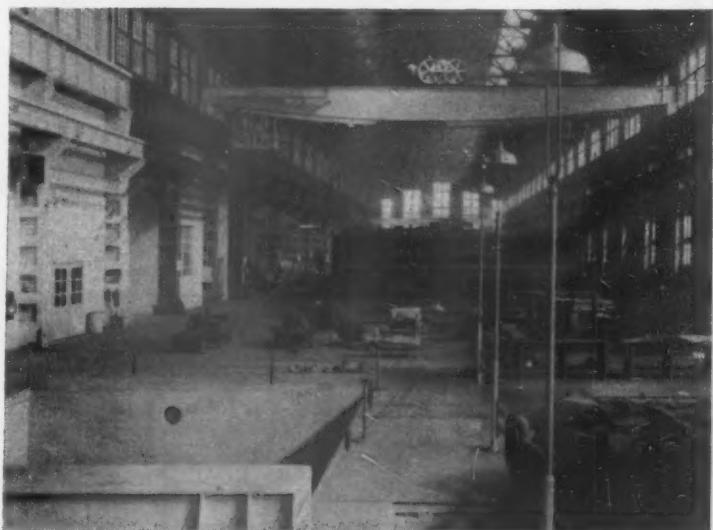
Mercury-vapor lamps on platform standards and on wall brackets illuminate the high-level platforms, and fluorescent lights are provided underneath the platform areas and in the various rooms and offices. Explosion-proof lighting was used in the pits and in the parts-cleaning room. Large expanses of windows in each wall panel of the upper walls of the high bay and a con-



A new track layout was constructed on the north side of the shop building to permit the Diesel units to enter the shop on four through tracks



The high-level platforms (right) are each supported on a single line of columns and are made of monolithically poured reinforced concrete



When Diesel units need extensive repairs that require more than two days' work, they are moved by the transfer table to the unaltered part of the shop building, shown here



The transfer table serves 26 transverse shop tracks and thus assures uninterrupted service even if a derailment should block access to the shop over the tracks on the north side

tinuous line of windows on each side of the bay monitor help to daylight the interior.

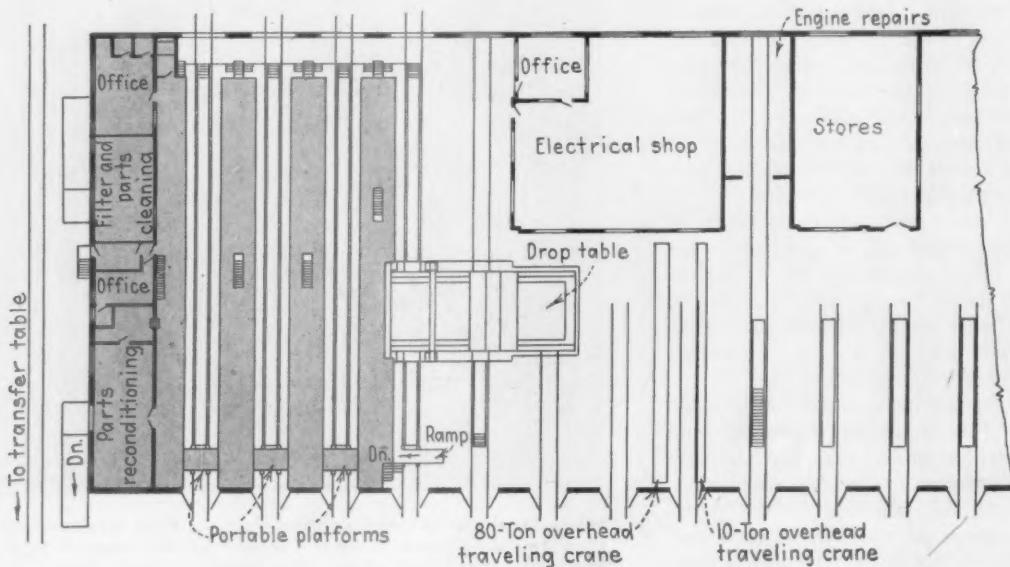
Heating for all parts of the shop is handled entirely by means of thermostatically controlled Murray Grid unit heaters, which are served by high-pressure steam lines from the terminal powerhouse. Two of these heaters, each with an output of 400,000 B.t.u.'s an hour, are placed near the rolling doors. These heaters are automatically started in the winter when the doors are opened, and consequently the heat from them helps to replace that lost through the doors.

A new concrete floor was laid in the area taken over for the Diesel repair shop and was painted in a cruiser gray color. A paint scheme employing the principles of color dynamics was used on the interior of the shop. The colors in the main shop include cascade blue for

the upper side walls, ceiling and window trim; suntone on the upper end walls and window trim; gray from the dado line to the floor. The offices were painted a suntone color on the ceilings and seafoam green on the walls. Machines, cranes, guards, etc., were painted focal colors to direct attention to them.

Protection against fire is assured by four Bowser package fog-nozzle units, located at alternate ends of the four high-level platforms, and by four 50-lb. carbon dioxide wheeled extinguishers.

Since the building already contained a large lye-cleaning vat, no new facility of this kind was built in the revamped portion of the shop for cleaning trucks and other heavy parts. Likewise, the locker and washing facilities in the older portion of the shop serve the employees in the Diesel repair shop.



Plan of the Diesel locomotive repair area. The through-track feature of the shop makes it possible to use the existing transfer table along the south side of the building (bottom of illustration) for moving Diesel units to other portions of the shop

Pennsylvania Installs Train-Space Sales System at Cleveland

Newly developed electrical devices for quickly reporting train space information to ticket sellers have been installed by the Pennsylvania at Cleveland, Ohio. As reported in *Railway Age* of August 12, page 65, this equipment enables each ticket office in that area to determine within eight seconds the space available for sale on any departing trains of that road over a 90-day period. The system, known as the "Infomat," was developed by the Union Switch & Signal Co.

Small consoles known as Infomat cabinets have been placed in Pennsylvania ticket offices throughout the Cleveland area. When a customer makes an inquiry, the ticket salesman pushes a button at the left of the cabinet (see illustration) for the month; rotates the dial at the top to set it for the day of the month; rotates the dial at the bottom for the destination; and punches one of the buttons at the right, corresponding to the train. Coded electrical impulses are then transmitted to the recording machine in the reservation bureau in the road's Euclid Avenue station, which automatically interprets the request and transmits a response. As this coded report is received at the ticket office, lamps are lighted on the upper portion of the console panel to indicate each type of accommodation available on the selected train for the specified date. This information is available to the ticket seller within eight seconds after he pushes the "train" button. A direct telephone circuit from the ticket office to the main posting board is used to complete a reservation, and the sale is processed in the usual way.

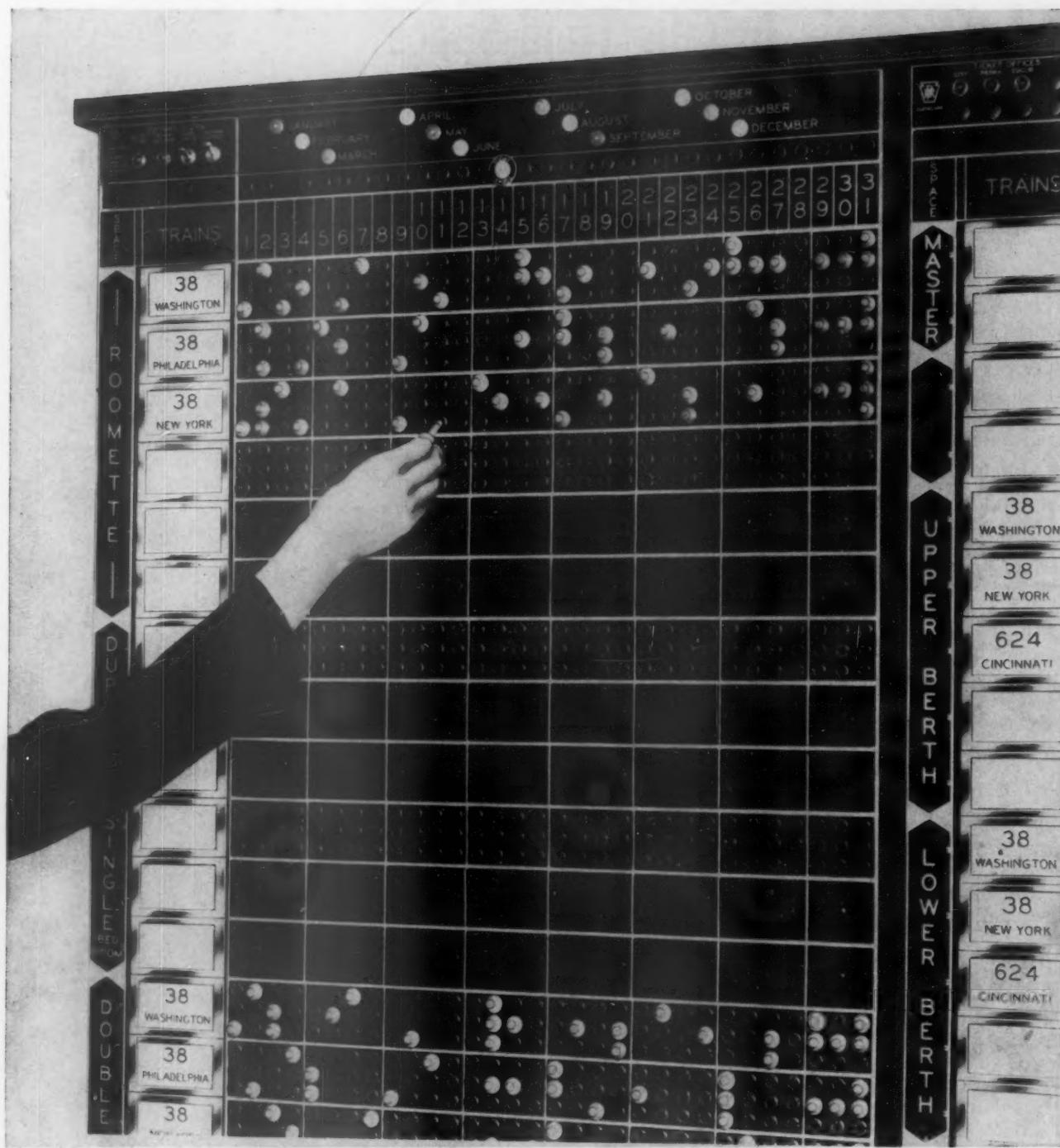
Recording Machine

The Infomat recording machine in the Euclid Avenue station is composed of standard panels 2 ft. 6 in. wide, 6 ft. 9 in. high, and 18 in. deep. Each panel is arranged in sections for the various classes of reserved accommodations. Each section is subdivided to provide a panel for each train, and each panel has three rows of receptacles (each for one month) with 31 receptacles in each row, thus covering three months in advance. When a particular type of accommodation is sold out for a train on any day, an attendant inserts a plug in the proper receptacle. This preconditions the machine so that subsequent "reports" indicate that the associated space is not available. On the other hand, as long as the appropriate receptacles are vacant, the machine "reports" that all classes of space are available.

The Infomat system is designed to handle as many as 15 different types of accommodations for 90 days in advance to a maximum of 256 train-destinations. The number of ticket offices which can be connected into the system is limited only by practical considerations. At busy ticket offices several ticket agent's sets can be handled by one operating unit, the number of sets connected at a given office being limited primarily by practicability. The additional sets may be separately mounted on pedestals or on counters. Each ticket office



On the console in a ticket office the seller pushes a button at the left for the month; sets a dial at the top for the day; turns a knob at the bottom for the destination; and pushes a button for the train. Within eight seconds lamps at the top are lighted to indicate the accommodations available



The recording machine in the reservation bureau has receptacles corresponding with months, days, destinations, trains for the next 90 days, and 15 classes of accommodations

can be connected to the recording machine at the reservation bureau by a two-wire line circuit. Where several ticket offices are located in the same general direction from the reservation bureau, they may be connected to the same pair of wires and controlled separately by individual carrier units. Telephone communications can be handled over this same line circuit.

System Has Many Advantages

Among the Infomat system's numerous advantages, one of the most important is its high public relations value to a railroad. For example, since the ticket agent's

set is located in plain view of the customer, he can watch as the agent makes the necessary manipulations to request the train space information, and when the indication lights become illuminated a few seconds later, he can actually see for himself what accommodations are available. Another important consideration from the customer standpoint is the greatly reduced time required for the handling of reservations. Another advantage of the Infomat system is the extreme simplicity of operation, which makes the selling of reserved space so easy and direct that existing personnel in ticket offices and reservation bureaus can handle the system with only a very short period of instruction.

GENERAL NEWS

Johnson Challenges Railroad Readiness

He insists roads will have fewer cars two years hence

Whether the railroads are in shape to handle the nation's commerce, including another war if necessary, was strongly questioned by Interstate Commerce Commission Chairman J. Monroe Johnson in a recent exchange of letters with Representatives Beckworth, Democrat of Texas, and Lovre, Republican of South Dakota. The letters, which were first made public last week at a House interstate commerce subcommittee hearing, have to do with the current car situation and contain statements by Commissioner Johnson expressing the opinion that under present car-building and scrapping programs "we will have fewer cars two years from now than we have today."

Four letters were in the file submitted by the I.C.C. chairman to the House group, and among them was one written by President William T. Faricy of the Association of American Railroads to Representative Beckworth. The latter, dated August 16, commented on another of the four letters — one that had been written to Mr. Beckworth by Commissioner Johnson on August 8. The group of letters also contained one which the commissioner wrote to Representative Beckworth on August 18, commenting in turn on the Faricy letter. The file was completed with the letter which the I.C.C. chairman wrote to Representative Lovre on August 8.

The exchange of letters with Representative Beckworth began on August 7 when the congressman sent Commissioner Johnson a copy of a recent American Railway Car Institute advertisement, "'Mr. Transportation' Gets Ready NOW!" Replying to Mr. Beckworth, the commissioner declared that even with several "miracles," including immediate pledging of orders for 150,000 freight cars, there still would be a net loss in two years of 18,000 cars. As to present plans, he said it is "inescapable" that "we will have fewer cars two years from now than we have today."

"Only a Trickle of Production"

"This advertisement and numerous utterances of the Association of American Railroads have reassured the public that the railroad situation is in good shape, when the contrary is emphatically the case," he said. He added that because of present steel shortages

"only a trickle of production" is being maintained by car builders.

Chairman Johnson mentioned what he called the "great revival in Chicago a short time ago," where the roads promised to order an additional 63,000 cars. He said that if these promises "ripen into contracts" there will be about 100,000 cars on order, but it will be assuming "still another miracle" to expect deliveries to reach 10,000 cars a month by as early as next May. Meanwhile, he said, roads are scrapping "around 8,000 cars per month."

In concluding the letter, the commissioner declared the only plan that will work to improve the situation is to have the "government itself make the car supply its own business." He said that even then relief could not be expected until early next year, but that "we would get out of the mess and be prepared for the future."

The I.C.C. chairman enclosed with this letter a copy of one written the same day to Representative Lovre. The latter congressman had advised the commissioner of the "serious" grain car shortage in South Dakota, and Chairman Johnson, in replying, reviewed the current car-shortage problem in some detail.

Five-Day Week Costs 600,000 Cars

"The railroad situation is more discouraging than I have ever known it," he said. He predicted the car shortage "inescapably will grow worse until November," and said the lack of heavy-loading orders, plus the five-day week, is costing the country up to 600,000 cars. As to the I.C.C. instituting heavy-loading orders, the chairman said that while the commission has the power to do so it does not have the staff for that purpose.

When Representative Beckworth received these letters from Commissioner Johnson he invited President Faricy of the A.A.R. to comment on them. Mr. Faricy complied in his letter of August 16 — in which he said that while he and the commissioner agree on the same objective, an adequate supply of freight cars for war or peace, they differ in appraising "the present and prospective factual situation."

Mr. Faricy said there were actually 67,084 cars on order on August 8, when Commissioner Johnson had said there were 40,000. As to the "trickle of production," the A.A.R. president said 3,464 new cars were produced in July, even though that is normally a month of relatively low production because of vacation periods.

The meeting at Chicago resulted in July orders for over 30,000 cars, Mr.

Faricy continued, "the largest number of freight cars ordered in any one month since 1924." He said the roads are "publicly pledged" to build up their car supply until it reaches 122,000 over what it was on June 1, and that such a program "is bound to take several years of sustained production." He disagreed that it would take "miracles" to get car production as high as 4,000 or 5,000 cars a month by next May, and went on to say "it would not surprise me" to see deliveries get over 4,000 in August.

Turning to the scrapping rate, Mr. Faricy said the average for the first six months of 1950 has been 6,548 cars a month, not 8,000 as Commissioner Johnson said. "The present scrapping rate is more likely to decrease than increase until car shortages are relieved," Mr. Faricy added.

"Less Drastic Steps" Available

The A.A.R. president continued by saying that present car shortages are nowhere near as severe as they were in the fall of 1922 when shortages were five times as bad as now. He said he is confident the situation this fall will not be anything like that at the peak of the 1922 shortage. As to the future, Mr. Faricy said the roads will have more cars two years from now than they have at present "unless the promises of support for our program that have been received from highly placed men in government having to do with the subject prove unreliable, which I do not believe they will."

Mr. Faricy said the reasons behind the current car shortage are "such peacetime practices as the five-day week." He said putting the country on a six-day week with restoration of the heavy-loading orders and penalty demurrage would go a long way toward solving existing problems. He said the industry is "not yet ready to agree" that the government should build freight cars. He suggested that there are "less drastic steps" available, such as accelerated amortization for tax purposes, which would help the railroads get money for their freight car program.

On August 18, Commissioner Johnson wrote Representative Beckworth, discussing the Faricy letter. In this letter, the commissioner emphasized "full and enthusiastic agreement on objectives" with Mr. Faricy, but went on to say that "regardless of miracles, there is no relief for this particular shortage, no matter what figures Mr. Faricy may prefer."

"I haven't a great deal of patience with Mr. Faricy's tweedledum and tweedledee as to whether there are 40,



"FOR EXCEPTIONAL SERVICE TO SAFETY" the Chicago Milwaukee, St. Paul & Pacific was given a special award of honor by the National Safety Council on August 22. Retiring President Charles H. Buford (second from left) here accepts the award from Safety Council President Ned H. Dearborn as John P. Kiley, new Milwaukee president (extreme right) and L. J. Benson, assistant to the president, look on. The award pays particular tribute to the

Milwaukee Road's employee casualty rate, which has been substantially below the average for all Class I railroads in every year since 1928. "In 1949," the award states, "its rate not only was 26 per cent better than in 1948 and 34 per cent better than in 1946, but was 23 per cent better than the average for all Class I railroads. This is an outstanding achievement in an industry that is conspicuously safety conscious."

000 or more cars on order," he said. "It does not make any particular difference what number of cars under 150,000 are on order," he went on. "Even if 150,000 cars were placed on order, we would have fewer cars two years from today than we have now."

As to criticism of his statement that only a "trickle" of cars are now being delivered, Commissioner Johnson said that when about 6,500 cars a month are scrapped, and when production is only 3,464 cars, as in July, then production "is worse than a trickle — it's a disgrace."

Continuing his comments on the scrapping rate, the commissioner said that if 150,000 cars were delivered in the next 24 months, the railroads meanwhile would have scrapped 144,000 and made a net gain of only 6,000 cars. "That would be no great relief if we had those 6,000 today, and we are speaking of two years hence with a railroad situation that is horrible to contemplate, as Mr. Faricy well knows, although for months he has been publicly saying what good shape the railroads are in and what a wonderful job they will do."

Handling War Load "100%"

The commissioner then referred to Mr. Faricy's comments on the 1922 car shortage and remarked that "I was not in these affairs in 1922. Perhaps Mr. Faricy was. I am speaking of modern times, World War II and since." He then went on to say that while the railroads are handling the Korean war load 100 per cent, in so doing, because of their "general inability," they are seriously affecting the economy of the country.

As to the "additional expense" that the government would incur in building freight cars, Chairman Johnson said that continuation of the "present railroad deficiency" will be far more expensive to the country than the building of hundreds of thousands of freight cars at government expense which would be sold and leased to the railroads on a liquidating basis.

Switchmen's Union Settles Wage Case

Pact based on proposal rejected by B.R.T. and O.R.C.

Settlement of the wage and rules dispute between 10 western railroads and their yard-service employees who are represented by the Switchmen's Union of North America was announced at the White House on September 1 by Dr. John R. Steelman, assistant to President Truman. The settlement was on the basis of a Steelman proposal that was rejected by the Brotherhood of Railroad Trainmen and Order of Railway Conductors shortly before those unions posed their August 28 strike threat which caused the President to seize the railroads for operation by the secretary of the army.

The principal issue in the Switchmen's case was the same as that involved in the yard-service phase of the Trainmen-Conductors case, i.e., a demand for a five-day, 40-hr. week for yardmen with no loss in the take-home

pay which those employees have been receiving for a six-day, 48-hr. week. The emergency board which passed on the demand recommended that the 40-hr. week be granted, and that a wage increase of 18 cents per hour be awarded in connection therewith. It would take a 31-cent increase to maintain take-home pay, and the unions rejected the emergency board's recommendations which were accepted by the railroads.

The settlement with the Switchmen's Union provides for a wage increase of 23 cents per hour, effective October 1, and quarterly cost-of-living adjustments; adoption in principle of the five-day, 40-hr. week but deferment of its installation; various other adjustments recommended by the emergency board, including rules modifications along lines sought by the railroads; and a three-year moratorium on further changes in wages and rules.

It was "in consideration of this three-year peace agreement," as the White House announcement put it, that the railroads went 5 cents above the emergency board's recommendation to grant the 23-cents-per-hour wage increase and acceded to the cost-of-living adjustment plan. The latter, which comes into play January 1, 1951, calls for an increase of one cent an hour for each point of increase in the consumer's price index computed by the Bureau of Labor Statistics of the Department of Labor. The adjustments will begin with any increase in the index above 174. It was 172.5 as of July 15. The plan also provides for dropping cost-of-living increases made under it if the index falls; but such drops will not cut into the 23-cent raise.

Five-Day Week Deferred

The agreement on the five-day, 40-hr. week issue was summarized by Dr. Steelman as follows: "The settlement provides for the adoption of a five-day work week, but the five-day work week will be set aside for a period of at least one year and thereafter subject to the desires of the employees and the manpower situation. During this interim period yardmen may work six days a week at straight time rates, but if required to work on the seventh day, will receive time and one-half."

The settlement also raises from 15 cents to 20 cents the increase in basic daily rates which the Switchmen's Union got in 1948 for the yard conductors and brakemen whom it represents. At that time the yardmen represented by the B.R.T. and O.R.C. accepted instead a "guarantee" of 20 cents per day which is absorbable in payments for overtime. The emergency board recommended that this "guarantee" be incorporated into the basic daily rates of the B.R.T. and O.R.C. members involved; so the raising of the S.U.N.A. adjustment from 15 to 20 cents is in accord with that recommendation.

Also in accord with the board's recommendations are other phases of the settlement, which make the basic daily

rate of car retarder operators 80 cents above that of yard conductors, and that of footboard yardmasters two-thirds of an hour's pay above the yard conductors' rate.

Rules Changes

Two rules changes sought by the carriers were involved in the settlement. The first related to the fixing of yard limits, and S.U.N.A. went along with the board's recommendation that an agreement be reached on a rule stipulating that management should be permitted to expand yard limits to conform to the needs of the service.

The other will involve a change in the so-called air-hose rule, which covers the coupling and uncoupling of air, signal and steam hose, the chaining and unchaining of cars, and the making of air tests. While air-hose rules are not uniform, many of them now provide that trainmen and yardmen are not required to perform such duties "where carmen are available." Because of disputes over interpretation of the rule, and costly awards of the National Railroad Adjustment Board, many roads entered so-called "escape" agreements which allow one or more hours pay to yard crews when any member thereof is called upon to couple or uncouple hose.

The emergency board recommended that the rule be rewritten to make more specific the meaning of "where carmen are available," and to provide that any extra payments to yardmen for performing the work be limited to members of yard crews who actually do it.

The settlement provides for a rule eliminating reference to the availability of carmen and thus leaving the carriers free to call upon any yard crew to perform the work. As to the extra payment therefor, it provides that all members of a yard crew thus called upon shall receive additional pay of 95 cents for the day involved.

President Truman Approves

Dr. Steelman's announcement said that the agreement "in principle" was reached at the White House between Arthur J. Glover, president of the Switchmen's Union, and Daniel P. Loomis, chairman of the Western Carriers' Conference Committee. The statement also said that President Truman "approved the settlement and congratulated both parties on their spirit of cooperation and their willingness to compromise their differences in the conferences with Dr. Steelman." Mr. Loomis made this comment:

"All things considered we think it is a fair settlement. It will protect the men against an increase in the cost of living without their having to ask for wage increases. Three years of peace, in view of the present emergency situation, is a very important factor and it should be a fair pattern on which to settle the other outstanding disputes."

In the latter connection, a spokesman for the B.R.T. and O.R.C. said that the settlement "will not have any ef-

fect whatever on the larger case. . . . Approximately 95 per cent of the switchmen are members of the Brotherhood of Railroad Trainmen." As noted above, the settlement formula was rejected by the B.R.T. and O.R.C. when it was proposed to them by Dr. Steelman and accepted by management.

The 10 western roads whose yard-service employees are represented by the S.U.N.A., and thus covered by the settlement are: Chicago Great Western; Chicago, Rock Island & Pacific; Davenport, Rock Island & North Western; Denver & Rio Grande Western; Great Northern; Minneapolis & St. Louis; Railway Transfer (Minneapolis, Minn.); Northern Pacific Terminal of Oregon; St. Paul Union Depot; and Western Pacific.

The dispute recently brought strikes to five of the foregoing roads, such walkouts finally culminating in the first government seizure growing out of the present controversies, i.e., the taking over of the Rock Island on July 8. (See *Railway Age* of July 15, page 50.) Since that time, as noted above, all major roads of the country have come under government operation as a result of the B.R.T.-O.R.T. strike threat. (See *Railway Age* of September 2, page 71.)

Plowman Names M.T.S. Staff and Advisory Council

E. Grosvenor Plowman, director of Military Traffic Service, Department of Defense, has announced the personnel of his advisory council and staff. The announcement also revealed that Henry F. McCarthy will serve "for an indeterminate period" as a consultant to Mr. Plowman.

Mr. McCarthy, who was assistant

director of the Office of Defense Transportation during World War II, recently resigned as vice-president in charge of traffic of the New York, New Haven & Hartford. Another Plowman consultant, who will also serve "for an indeterminate period," will be Edmund A. Nightingale, associate professor of transportation at the University of Minnesota, who served during World War II on the staff of the War Production Board's Transportation and Stockpiling Division.

The staff of M. T. S., as announced by Mr. Plowman, includes Colonel A. G. Viney, who will serve as deputy director by transfer from the Department of the Army; Francis X. Dunleavy, who will serve as assistant deputy director on transfer from the Army Transportation Corps; Earle Newman, transportation specialist, who has been transferred from the Navy Department; and Frank Perrin, who will serve as commerce counsel. Mr. Perrin, who has recently been with the Munitions Board, was formerly a member of O. D. T.'s staff.

Representatives of the military departments and of the Munitions Board, who will comprise the advisory council of M.T.S., are: Army—Major General Frank A. Heileman, chief of transportation, and Colonel E. B. Gray (alternate); Navy—Rear Admiral George W. Bauernschmidt, and Captain William J. Marshall (alternate); Air Force—Major General William E. Farthing and Colonel John M. Bartella (alternate); Munitions Board—Rear Admiral Morton L. Ring and Colonel C. A. Kengla (alternate). Headquarters of M. T. S. are in Room 20869, The Pentagon, Washington, D. C.

"The purpose of the Military Traffic Service," as explained by Secretary of



THE AUSTRALIAN "SOUTH COAST LIMITED," shown here in the Mount Lofty Ranges, is hauled by a 520-class locomotive said to be the first of its type in Australia to have all wheels fitted throughout with roller

bearings. All material for the South Australia Railways engine, except boiler plates, roller bearings and exhaust steam ejectors, was made in the "down under" continent



"SUBURBANER SERVICE" becomes a reality with the delivery of two of 30 new double-decked "galleried" coaches for the Chicago, Burlington & Quincy's suburban service between Chicago and Aurora, Ill. Built of stainless steel by the Budd Company, the new air-conditioned cars seat 148 commuters, 96 on the main floor and 52 in the upper "galleries," which are reached by short stairways adjacent to the entrance doors. Shown directly behind the new coach is a standard steel car, also air-conditioned and modernized for suburban service, which has auxiliary power equipment for use on longer

trains where lighting and air-conditioning requirements would exceed the locomotive's auxiliary output capacity. The Burlington is spending nearly \$10 million to modernize completely its suburban runs. Already in service are 70 all-steel cars which have been completely modernized and air-conditioned. All but 14 per cent of the weekday, and all Saturday and Sunday, trains are Diesel powered. In announcing the arrival of the first of the gallery coaches, the Burlington said that consideration, too, was being given to rearrangement of schedules to provide speedier and more attractive service

Defense Johnson, "is to provide at the staff level, under one authority, efficient and economical traffic management for the movement within the continental United States of persons and things for all agencies or departments of the Department of Defense, subject to the policies of the Joint Chiefs of Staff and the Munitions Board. The Military Traffic Service will concern itself particularly with such matters as recommending modes of carriage, prescribing routes, and negotiating rates."

As noted in the *Railway Age* of August 26, page 54, Mr. Plowman is vice-president—traffic of the United States Steel Corporation. He has been "loaned" to the Department of Defense to serve as M. T. S. director "until a permanent director is selected."

Barriger Suggests Transparent Box Car

A transparent box car, by which yardmen could see the damage wrought by rough handling, has been suggested by J. W. Barriger, president of the Chicago, Indianapolis & Louisville, as a means of reducing claims for freight damage. Mr. Barriger made his suggestion before a conference on careful switching held in Chicago under the joint sponsorship of the Association of American Railroads and the Chicago Claim Conference. Other

speakers on the August 22 program were J. P. Newell, general manager, Western region, of the Pennsylvania, and J. V. Hill, vice-president, freight traffic, of the Chicago, Rock Island & Pacific.

Mr. Barriger discounted the educational value of open-top cars in "damage-mindedness," saying materials usually handled in open-top cars are not as easily damaged, nor is the damage as readily apparent as that to the contents of the average box car. "The principal cause of damage is carelessness and inattention, and the most serious results are registered in damage to contents of box and refrigerator cars," he said.

Mr. Barriger said mass transport involves production and application of great forces which are not easily kept under perfect control. Good switching requires a well developed railway plant and experienced men who know and like their jobs. If these men have a proper understanding of their responsibilities and a professional pride in the quality of their work, careful switching—and every other component of good railroading—can be achieved. A few transparent box cars would make it unnecessary for a yardmaster or supervisory officer to take action to stop rough handling, for if the switchmen could see what goes on inside a roughly switched car, they would soon stop the practice altogether.

Mr. Newell pointed out to the group that the problem of freight loss and damage "is as remote to most railroaders as the Einstein theory of relativity." It is a mutual problem, he said, because all railroads are involved, and railroads like to pay claims for loss and damage no more than shippers like to have their products damaged or lost. Mr. Newell said he was convinced that 75 to 80 per cent of L. & D. claims are the result of rough handling in railroad terminals and that much of this could be controlled by intensive education of "on the ground" employees. Last year's freight claim bill, he added, equalled 26 per cent of the net income of all railroads. An inter-carrier exchange of educational ideas might prove of great benefit in reducing this needless waste.

Sizes Up Strike's Effect

Operating revenues for the first six months of 1950 would have closely toed the 1949 mark had it not been for the strike of the Switchmen's Union of North America, stockholders of the Chicago, Rock Island & Pacific were told recently in the company's mid-year report. For the first five months of the current year, the report stated, revenues declined only 0.9 per cent from the 1949 figure but, because of the strike, which began on June 25 and continued until federal seizure on July 8, the six-months' revenue was 4.9 per cent under the 1949 figure. Nevertheless, the final total compared favorably with the Class I railroad average for the period—a 5.2 per cent drop.

In anticipating the walkout, President J. D. Farrington said, all possible freight equipment was delivered to connecting roads. Normal operations were not resumed for several days after the seizure, he added, because it was necessary to re-stock the railroad with sufficient cars to meet the pent-up demands of the shippers. Mr. Farrington anticipated that although July revenues will reflect the shut-down, the loss will be a temporary one and that it will be erased by the end of the year. Both local loadings and receipts from connections are now running well ahead of last year, he said.

Superintendent's Relations with Shippers

If there could be closer cooperation between the superintendent, the industrial traffic manager and the railroad freight traffic agent, each would find his task an easier one, and a marked improvement would be noted in the railroad's sole product—service. Thus did H. C. Munson, vice-president and general manager of the Western Pacific, keynote the Pacific Coast post-convention meeting of the American Association of Railroad Superintendents held at Los Angeles, Cal., on August 15 and 16. Mr. Munson's talk was delivered at a luncheon attended jointly by the superintendents and

members of the Los Angeles Transportation Club.

Citing what he considered to be the three chief responsibilities of a superintendent — safety of operation, effective performance and economy in operation — Mr. Munson went on to show how a close contact between the railway salesman (the traffic agent), the railway patron (the industrial traffic manager) and the railway production manager (the superintendent) could enable the latter to do a superior job to the simultaneous benefit of the other two.

A headache of major proportions to a good many superintendents, Mr. Munson pointed out, was the injection of additional local work into freight train schedules which are regularly manifest, with the oft-made remark "What difference does one stop make?" In special instances such service is often justified, but the margin for decision habitually lowers with each succeeding request until the requests become a chronic drain on the manifest's performance. Moreover, he pointed out, railroad operation is an interdependent series of movements and to subject one schedule to delay for any reason brings prompt repercussions at many other places on the system. This is particularly true, he said, in larger industrial areas where industrial switching and transfer runs are plagued with "rush lists," many items on which are without legitimate urgency. Railroad and industrial traffic men must learn that abusive use of rush orders only leads to degeneration of the entire service. It is the responsibility of the superintendent to separate the wheat from the chaff among these special requests and then reach an understanding with the shipper whose request cannot be accommodated. The same principles apply to the holding of transfer runs and road movements for indefinitely late cars. Such chronic conditions call for analysis of the cause by the superintendent, the agent and the traffic manager.

Display the Damage

Traffic managers can reduce damage from rough handling by showing the yard foreman and the offending crew, first hand, the damage wrought by their carelessness. The average railroader is a reasonable man. Mr. Munson told the group, and will improve his performance if he can see the reason for doing so.

Many superintendents fail to recognize the importance of traffic to their own operations. Mr. Munson pointed out that if a superintendent has a substantial volume of traffic, his statistics are frequently good, even though the superintendent himself hasn't contributed much toward them.

In closing, Mr. Munson suggested that general agents and traffic managers would do well to familiarize themselves with the serious responsibilities of a railroad superintendent. If they can, he said, they will not only help him to carry out his responsibili-

ties but will find in him a friend who can help them with their own problems.

Following the luncheon session, Transportation Club members joined with the superintendents to hear E. D. Moody, assistant general manager of the Southern Pacific, tell of "The Superintendent's Responsibility in Accident Prevention," and G. J. Petersen, assistant freight claim agent for the S. P., talk on freight loss and damage. Other sessions of the meeting were taken up with discussions of committee reports originally tendered at the Chicago convention of the association on June 6, 7 and 8. Pacific Coast post-convention meets were initiated in 1949 to enable Far West membership to play a more active part in the association.

The 90 attending members also made an inspection tour of the industrial districts of Los Angeles, arranged by General Manager Tom Wagenbach of the Pacific Electric. The business sessions were presided over by Association President C. I. Morton and Past President Fred Diegtel. O. H. Bryan, assistant to general manager, Western Pacific was in charge of arrangements.

Report on Damage To Egg Shipments

Damage to shell eggs in rail cars, when total lengthwise slack between the cases is more than 2 in., averages twice as great as when the slack is less than 2 in., according to a report issued by the Production and Marketing Administration of the U. S. Department of Agriculture. The report is based on a Research and Marketing Act study

of shipments of 1,680 carloads of eggs.

Hay or straw buffering, and wood space fillers between cases at the center of the car provided equal protection to the egg cargo. Damage was about the same for eggs packed in wood veneer cases as for eggs in fiberboard cases. In 5-layer-high loads, 16.1 per cent of the cases showed damage as compared to 9.8 per cent in 4-layer-high loads. However, in shipments in which unbraced partial 5th layers were used, 24.4 per cent of the cases showed damage upon arrival at terminal market.

The report, entitled "Reduction of Loss and Damage in Rail Transportation of Shell Eggs by Improved Loading and Bracing," is available from the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Overall L.C.L. Agency? —T-M-K Board Asks

Shall there be created an overall agency to handle all railroad l.c.l. freight traffic? That, in substance, is the question now being asked by the Trans-Missouri-Kansas Shippers Advisory Board of its 12 companion boards and of the National Association of Shippers Advisory Boards. The reaction of these boards to the proposal will be reported to the T-M-K Board membership at its meeting on September 28.

This proposal for an independent l.c.l. agency had its inception in a report of the T-M-K Board's L.C.L. Freight Committee last September. After the report the board passed a resolution which called on the railroads to explore

"WHAT IS OUR FUTURE?" is the general title of a pamphlet, two pages of which are reproduced above, issued to railroad employees by the Ogden, Utah, Boosters' League, composed of employees of the Southern Pacific, the Union Pacific, the Pacific Fruit Ex-

press, and the Ogden Union Railway & Depot. J. D. Jeffs is general chairman of the league and Mrs. Caroline A. Klenke is secretary-treasurer of the league's general committee, all the members of which participated in issuance of the pamphlet.

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the feasibility of establishing a separate operating agency for exclusive handling of l.c.l. traffic.

Because the railroads are the nation's only true common carrier, the board said it was concerned over their apparent inability to provide the service at costs comparable with those of competitors. By handling the traffic through a single agency, the board felt that economies in use of equipment and facilities would result and at the same time there would be an improvement in service to shippers. Open routing of shipments, it was pointed out, would permit greater flexibility for the carriers and extensive use of rail-motor coordination would, in many instances, permit greater economy of operation as well.

The proposal was later submitted to the chief executive officer of each railroad in the T-M-K area and their reactions, though varied, indicated that the plan was of sufficient merit to warrant further study, possibly by a special committee of the Association of American Railroads.

July Employment

Railroad employment increased 0.5 per cent — from 1,239,613 to 1,245,794 — from mid-June to mid-July, and the mid-July total was 3.07 per cent above that of July, 1949, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index of employment, based on the 1935-1939 average as 100, was 119.5 for July, compared with 119.8 for June, and 116 for July, 1949.

July employment was below that of June in only one group, maintenance of way and structures, which was down 0.03 per cent. Increases in July ranged from 1.1 per cent in the group embracing yardmasters, switch-tenders and hostlers, to 0.01 per cent in the executives, officials and staff assistants' group.

As compared with July, 1949, employment was down in three groups, while increases for the remaining groups ranged from 13.9 per cent to 0.15 per cent. The greatest decrease, 4.6 per cent, was in maintenance of way and structures; the greatest increase was in maintenance of equipment and stores.

Universities Expand Traffic Courses

Two new courses, one dealing with labor relations and selected labor contracts in the railroad industry and the other designed to teach the basic principles underlying the sale of railroad services, have been added to the curriculum of the University of Tennessee's Department of Transportation and Public Utilities for the coming academic season. This brings to 18 the total number of courses in railroad and public utility operation now being offered by the department.

Northeastern University, Boston,

Mass., is offering evening courses in traffic subjects designed to serve persons currently employed in or training for positions in traffic departments of industrial or transportation companies.

Waybill Studies

Three additional waybill studies have been issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. They are: Statement No. 5022, State-to-State Distribution of Products of Agriculture Traffic and Revenue—Terminations in the Year 1948; Statement No. 5031, Distribution of Freight Traffic and Revenue Averages for Commodity Groups by Rate Territories—Terminations in the Fourth Quarter of 1949; and Statement No. 5032, State-to-State Distribution of Products of Mines Traffic and Revenue—Terminations in the Year 1948.

N.Y. Port Authority Predicts Big Gains in Air Traffic

The New Jersey-New York metropolitan district will maintain its position as the major air traffic center of the nation over the next 30 years, with air passengers in 1980 increasing to two and one-half times the number in 1949; air cargo almost seven and one half times, and air mail almost seven times, according to an air traffic forecast by the Port of New York Authority.

According to the forecast, the New York Port District will account for 11,200,000 air passengers in 1980, compared with 4,300,000 in 1949, an increase of 158 per cent; 599,400 tons of air cargo, compared with 81,200 tons, an increase of 638 per cent; and 131,500 tons of air mail, compared with 18,600 tons, an increase of 606 per cent.

According to "long-range estimates which, barring unforeseeable world political and economic changes, will require only basic adjustments over the years," the authority predicts that domestic air lines in 1980 will account for 22 billion passenger-miles of travel, compared with 6.6 billion in 1949. By 1970 air travel will be greater than intercity rail travel. Air transport will carry almost all of the common carrier passenger traffic moving beyond 1,000 miles, and more than half of the traffic moving between 150 and 1,000 miles, but an insignificant part of traffic under 150 miles. The New Jersey-New York Port District will continue to handle about a fourth of the nation's air passengers. Future increases in volume of air passenger travel are expected to come largely from personal travel.

For the nation as a whole, air cargo tonnage is expected to increase nine-fold by 1980. The market for air cargo will be limited to items moving relatively long distances and for which air speed offers substantial marketing and distribution benefits. Air cargo costs will decline to a point which will

justify rates about a fourth lower than present charges.

The survey anticipates an "all-up" policy that would call for first-class mail delivery by air where such delivery would be quicker than by surface transportation.

The study assumed, among other things, that commercial air transport "will continue to benefit from government expenditures and other cooperative efforts in the field of aviation."

Labor Dept. Reports on RR Equipment Makers

Railroad locomotive and car building industries "are part of a group in durable goods manufacturing where overtime can be expanded substantially to meet any defense orders," the Bureau of Labor Statistics of the U. S. Department of Labor says in a recently issued report.

In support of this statement, the bureau points out that in June of this year employees in railway and street car building plants worked an average of only 38.7 hr. per week, and those in locomotive and locomotive parts plants only 39.5 hr., while in the same month all manufacturing employees worked an average of 40.5 hr. per week, and those in all durable goods industries 41.4 hr. On the other hand, employee earnings in the railroad equipment industries were considerably higher than employee earnings in manufacturing generally. Average hourly earnings in car plants, the bureau says, were \$1.576 and in locomotive plants \$1.719, against \$1.454 in all manufacturing. Average weekly earnings were \$60.99 in car plants; \$67.90 in locomotive plants, and \$58.89 in "all manufacturing."

Other sections of the report deal with orders for and deliveries of freight cars from January 1, 1946, through June 30, 1950; locomotive orders in the same period; production worker employment in the car and locomotive manufacturing industries; Dieselization of railroads, and percentage distribution between various forms of transportation of commercial intercity freight and passenger traffic in the United States for selected years from 1926 through 1949.

Wage-Hour Negotiations Resumed in Canada

Wage-hour negotiations between principal Canadian railroads and 17 unions representing approximately 124,000 of their non-operating employees were scheduled for resumption on September 8, following Parliamentary action which brought to an end on the evening of August 30 the Dominion-wide strike which had virtually paralyzed Canadian railroad service since August 22. (See *Railway Age* of August 26, page 44, and September 2, page 77.)

The two chief points at issue in the renewed negotiations were expected to-

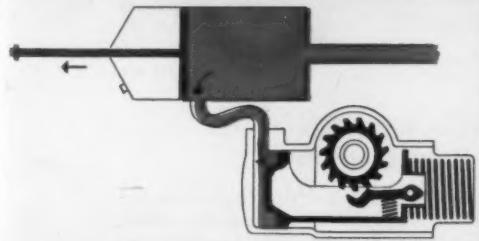


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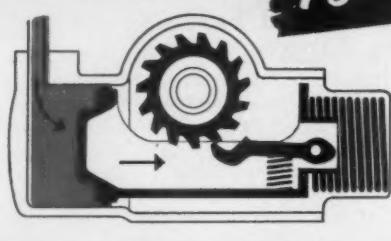
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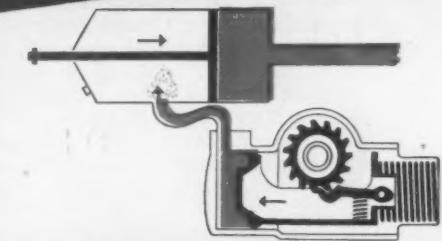
For Freight Cars



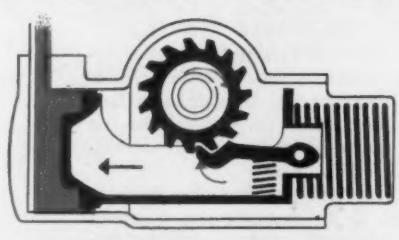
Excess Brake Cylinder Piston Travel uncovers port—admits air to slack adjuster cylinder.



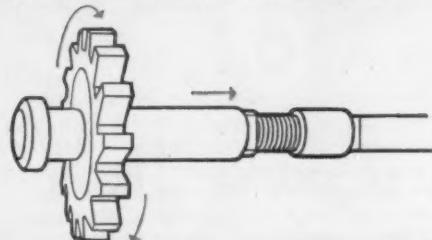
Air moves piston, and associated parts, compressing spring.



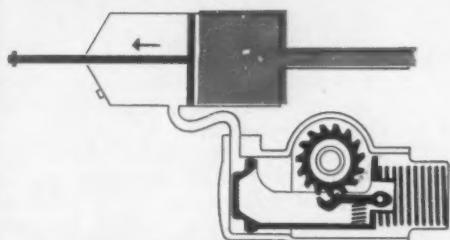
When brake is released, air in adjuster cylinder is vented, and spring returns piston.



Upon return of piston, pawl advances Ratchet Nut one tooth.



Movement of nut shortens tie-rod connection, taking up slack.



Action occurs with each brake application, maintaining piston travel at proper value.

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be the reduction in weekly working hours from 48 to 40, with no reduction in pay, and the inclusion in whatever new agreement is reached of employees of hotels owned and operated by the railways. The major difference is expected to be over the shortened working week, and especially over the date when it will become effective. The railroads have already agreed in principle to some reduction in weekly working hours, but want to defer the effective date until some time next year at the earliest, while the unions want it to go into effect at an earlier date.

The non-operating unions have made no insistent demand for the check-off of union dues, and this point is not expected to be an issue in the present negotiations.

As reported in these pages last week, the non-operating employees returned to work after a special session of the Canadian Parliament adopted an emergency bill ordering them back; granting them an interim wage increase of four cents an hour, one cent below the final union demand for a five-cent increase; and providing for appointment of a government mediator whose decision would be binding on both parties as to all points which were not settled by direct negotiations within 30 days.

During the seven-hour Parliamentary debate on this measure on August 30 Socialist party leader M. J. Coldwell, and some other members of Parliament, attacked Donald Gordon, chairman and president of the Canadian National, on the ground that he "had been responsible" for breaking off negotiations when, according to union spokesmen, "there was a good chance of a settlement." Mr. Coldwell declared that "because of his behavior during strike negotiations," Mr. Gordon's "period of usefulness" as head of the C. N. had ended, and that "someone else should be given his place." Conservative leader George Drew's proposal for the naming of a coordinator to run both roads pending settlement of the strike was defeated by a large majority.

Mather Defends Gordon

The attacks on Mr. Gordon were hotly refuted by W. A. Mather, president of the Canadian Pacific; while late last week Prime Minister Louis St. Laurent read to the House a brief statement in which he declared that the government had "complete confidence" in Mr. Gordon's administrative capacity and in his desire to make the railway serve the public.

Canadian newspapers have commented that, while the strike situation appears well on the way to settlement, "the government's railway headaches are far from over," pointing out that:

"Apart from the continuing possibility that it may have to set up an arbitrator to settle finally the wage-hour issue between the companies and unions, it faces these prospects:

"1. It must reach a decision on an appeal filed by the governments of seven provinces against the latest freight-rate increases

awarded the railways by the Board of Transport Commissioners.

"2. It must deal—late this year or early next year—with the report of its Royal Commission on Transportation, expected to make sweeping recommendations for grappling with the transportation problem generally.

"3. It will be confronted before long, perhaps late this year also, with a report from the Board of Transport Commissioners dealing with the contentious question of equalizing freight rates across the country.

"Along with these issues, there is the certainty of a new freight-rate case before the Transport Board, which the railways unquestionably will file as the result of wage-hour concessions to their employees. Only the size of the increase that will be proposed is in doubt. As in the string of rate cases that have stretched over almost four years, it is expected that increases proposed by the railways will again be opposed by seven provinces—all except Ontario, Quebec and Newfoundland."

Testimonial Dinner for Walter S. Thompson

To mark the retirement of Walter S. Thompson as director of public relations of the Canadian National (see *Railway Age* of August 5, page 60), the Montreal Men's Press Club—Cercle des Journalistes are sponsoring a testimonial dinner in the ballroom of the Mount Royal Hotel, Montreal, Que., on October 7. G. J. Fitzgerald, president of the Press Club, and E. Letellier de Saint-Just are co-chairmen of the committee on arrangements. Tickets will be \$10.

Federal Barge Begins New Scheduled Express Service

Scheduled express service on the Mississippi river between Chicago, St. Louis, Mo., and New Orleans, La., was placed in effect by the Federal Barge Lines on September 5. The new service, which is offered both to shippers of carload and l.c.l. merchandise, and shippers of joint rail-barge traffic routed to, from or via St. Louis and New Orleans gateways, was established to offer "the maximum possible incentive to package freight shippers to use the river" and also to demonstrate the effectiveness of the new "integrated" type of tow in high speed river transportation.

The "integrated" tow—a new development in river transportation—consists of a stub-ended tow boat and a series of matched barges of duplicate hull contour fastened tightly in a single series. To the stub bow of the leading barge is attached a demountable wedge-shaped prow, making in effect, a single boat out of the entire tow. The result is a considerable improvement in both performance and maneuverability over conventional barge equipment, the company explained.

The new service will be operated on a weekly basis with running times of

3½ days southward and 6½ days northward between St. Louis and New Orleans, and 6½ days southward and 10½ days northward between Chicago and New Orleans. Initially the express service will be operated with both integrated tows and conventional equipment. Comparisons between the two types of equipment will be the basis for a possible expansion of the service with integrated equipment to intermediate ports and also to ports on the Upper Mississippi and the Missouri.

Freight Car Loadings

Car loadings for the week ended September 2 were not available when this issue of *Railway Age* went to press.

Loadings of revenue freight for the week ended August 26 totaled 836,744 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

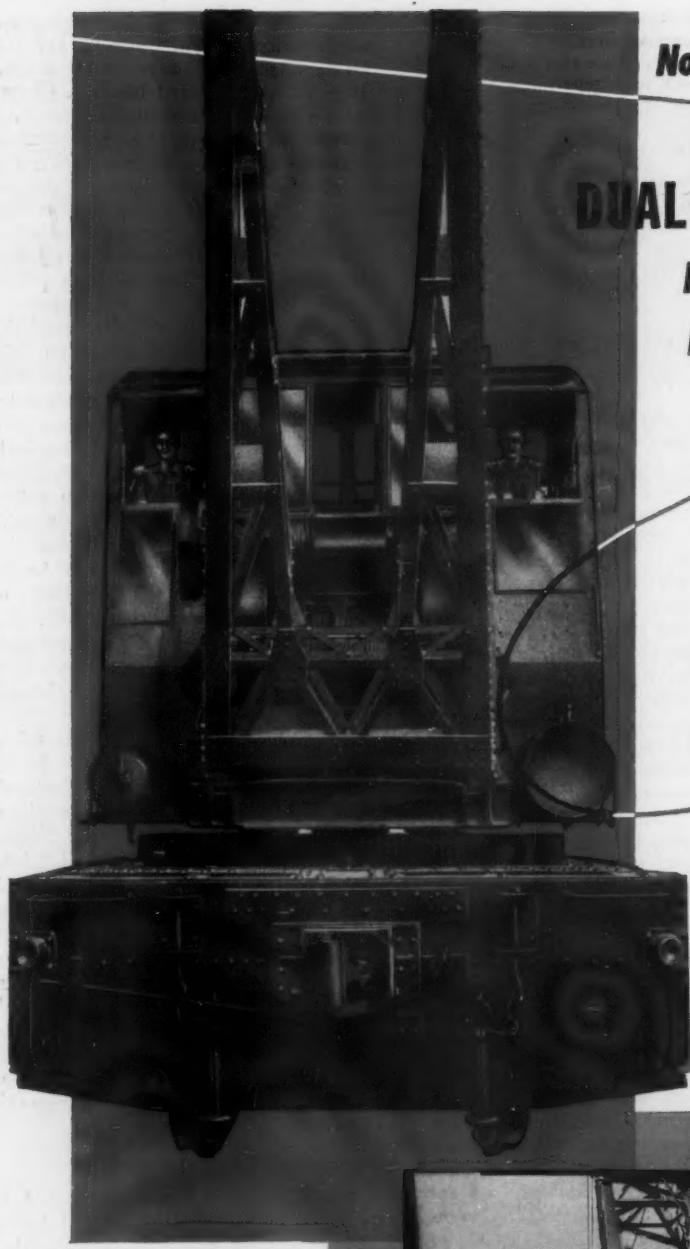
REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, August 26			
District	1950	1949	1948
Eastern	139,459	132,804	154,338
Allegheny	172,955	141,293	183,162
Pocahontas	63,948	48,524	74,204
Southern	129,461	110,104	131,678
Northwestern	136,338	134,256	144,665
Central Western	131,296	118,915	135,144
Southwestern	63,287	61,315	68,475
Total Western Districts	330,921	314,436	348,284
Total All Roads	836,744	747,211	891,666
Commodities:			
Grain and grain products	51,556	50,651	52,538
Livestock	8,260	11,454	11,290
Coal	154,004	120,720	184,126
Coke	13,536	10,029	14,862
Forest products	50,122	41,072	53,437
Ore	79,226	64,509	75,452
Merchandise l.c.l.	88,977	92,580	106,206
Miscellaneous	391,063	356,196	393,755
August 26	836,744	747,211	891,666
August 19	851,025	731,213	900,663
August 12	847,465	728,029	891,276
August 5	837,218	716,863	878,647
July 29	844,849	724,044	894,375
Cumulative total 34 weeks	24,277,592	24,422,464	27,813,446

Outlook for Railroads Is Bright—Fraser

How to make a living? That is the real railroad problem of modern times, Donald V. Fraser, president of the Missouri-Kansas-Texas, told 250 bankers assembled at the University of Wisconsin's School of Banking at Madison, Wis., on August 25. "During World War II, and again at the present time," Mr. Fraser said, "the increase in traffic volume arising from rearmament and military demands has lightened the pressure of the problem, but when traffic volume falls once more, it will be back, sharpened and intensified."

The railroad's problem, he said, is primarily, if not exclusively, a credit problem. Prudent expenditures for improvements constitute the chief means of cutting costs but the railroads have not had enough money to put "full-grown" modernization into effect. Thus the industry's opportunity to render its best service to the public is somewhat "stultified."

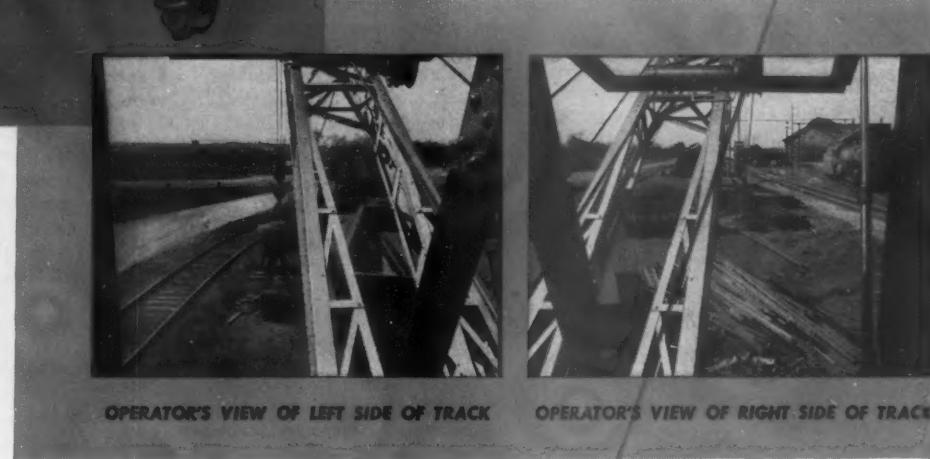
"Curiously, this lack of funds for



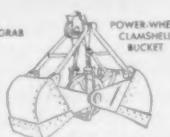
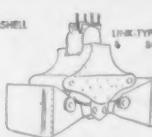
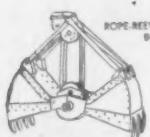
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NEW BROWNHOIST
DUAL CONTROL DIESEL CRANE
Increases Safety and Efficiency
In Maintenance-Of-Way Work

Industrial Brownhoist's Dual Control Locomotive Crane, with a complete set of interlocking controls on each side of its high Monitor-type cab, is ideally suited to maintenance-of-way work because it affords 100% visibility on either side of the track and to the rear. The operator of a Dual Control Crane has no blind spots, thus there's no need for a ground signalman. When the operator's work shifts, he has merely to lock the controls where he's sitting, cross to the opposite side and continue his work with the other set of controls. Brownhoist Dual Control Locomotive Cranes are available in all capacities from 20 tons up, with travel speeds ranging up to 13 m.p.h.

Added safety and efficiency is assured because the Dual Control Crane, like all Industrial Brownhoist cranes, is equipped with the new open-type boom that allows the operator full visibility even when the boom is in line with his work. 14" safety clearance is provided between revolving upperworks and carbody.



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the modernization of plants does not seem to apply to other agencies of transportation," Mr. Fraser continued. "Pipe lines have been built as fast as the pipe could be produced; there has been no lack of investment funds for transport on the Great Lakes nor for coastwise shipment of oil in tankers. More trucks are being built than ever before for operation over the highways, and ample funds seem to be available for airlines and artificial inland waterways. Funds are being made available for these purposes, although most of the money is furnished by the taxpayers. It is the railroads, and only the railroads, that have been without adequate funds for thorough modernization."

Yet the railroads today are in the best physical condition in their history, Mr. Fraser told the group, and it is a credit to railroad management that they have wrought such great improvement largely on borrowed money. There have been no new railroad stocks issued in the past 20 years. "This is not a healthy situation," he said, "for there is a definite limit to what management can accomplish without new equity capital."

"Nevertheless I feel that the outlook for the railroad industry — and for railroad securities — is good. . . . My optimism," he continued, "is based on the indisputable fact that mass transportation moving on wheels running on steel tracks is the most economical form of transportation yet devised. There is also basis for optimism in the hopeful signs that we are approaching a turning point in the public regard for the railroad problem, and an opportunity to find at least a solution to some of the more acute difficulties. Certainly more and more attention is now being focused on railroad problems and the competitive situation in transportation generally. While realizing the underlying need for a realistic approach to the problems confronting it, I am definitely optimistic about the future of our industry."

New Haven Sells New Accident Insurance

New York, New Haven & Hartford passengers may now purchase accident insurance through vending machines at 21 of the road's principal stations.

The New Haven is said to be the first railroad in the country to make available this service, in which a passenger simply drops a quarter in a slot machine to buy an insurance policy giving him protection for the next 24 hours. The policy pays a maximum death benefit of \$25,000, as against a \$5,000 maximum in the policy which the road's ticket agents previously sold over the counter. The new policy is sponsored by Goal Insuraide Machines, Inc., and underwritten by the Continental Casualty Company.

In his instructions to ticket agents concerning the new arrangement Charles E. Williams, general passen-

ger traffic manager, points out that New Haven passengers now "are placed in the favorable position of being able to purchase \$25,000 accidental death insurance protection, the same as airline passengers, but in recognition of the railroad safety record, are required to pay only one-fifth the premium."

Ticket agents at stations not supplied with the policy-vending machines began manual sale on September 1 of the same "\$25,000 for 25 cents" policies.

Fuel from Oil Shale Runs D. & R.G.W. "Prospector"

Diesel fuel derived from oil shale was used to power the Denver & Rio Grande Western's streamlined "Prospector" between Salt Lake City, Utah, and Denver, Colo., on a special demonstration run September 1. The fuel came from the U. S. Bureau of Mines experimental oil-shale plant near Rifle, Colo., operation of which was fully described in the *Railway Age* of September 2, page 56. The demonstration of shale Diesel fuel was arranged by the Rio Grande in cooperation with Boyd Guthrie, chief of the oil-shale demonstration branch to show the practicability of such fuel.

The "Prospector's" Diesel locomotive carried 3,750 gal. of Diesel fuel at the start of the trip. This fuel was refined from 624 tons of shale which also produced an equal amount of gasoline, 6,600 gal. of heavy fuel oil, nearly seven tons of coke and other miscellaneous by-products, according to Mr. Guthrie. Aboard the train for the test run were more than a score of the nation's top mining experts, headed by Dr. James Boyd, director of the Bureau of Mines, all of whom had been attending the American Mining Congress at Salt Lake City. The group traveled in a special sleeping car which was set out at Rifle during the night to permit a special tour of the plant and its experimental shale mine. Regular passengers aboard the train were given kits containing samples of shale and oil refined from it as souvenirs, and were also presented with cards signed by Mr. Boyd and President Wilson McCarthy of the Rio Grande commemorating the trip.

"Railroad Hour" to Resume Regular Winter Schedule

Effective Monday, October 2, the "Railroad Hour," sponsored by the Association of American Railroads over the National Broadcasting Company's network, will resume its regular winter presentations of well-known operettas and musical comedies which have made it in only two years one of the country's most popular radio programs.

The schedule for the first 13 weeks of the fall and winter season includes "Allegro," "Connecticut Yankee," "Jubilee," "Brigadoon," "Orange Blossoms," "Pirates of Penzance," "Roberta," "Wizard of Oz," and "The Fortune Teller," plus a special Christmas pro-

gram on December 25. As in previous years, the cast will include Gordon MacRae, plus such guest stars as Dorothy Kirsten, Nadine Connor and Lucille Norman; Carmen Dragon's orchestra, and a chorus directed by Norman Luboff. Marvin Miller will be the announcer.

Johnson Thinks Loading Orders May Come Soon

Chairman J. Monroe Johnson of the Interstate Commerce Commission said at an August 31 press conference that he had met that day with representatives of the Association of American Railroads for a discussion of proposals to alleviate the present freight-car shortage which Colonel Johnson called the "most difficult I've encountered." The proposals under discussion included suggestions that orders be issued requiring heavier loading of freight cars, that there be a reduction of the free time allowed shippers and receivers of freight before demurrage accrues, and that demurrage charges be increased.

While no immediate action was taken as a result of the meeting the I.C.C. chairman thought "as a conjecture" that heavy-loading orders like those issued by the Office of Defense Transportation during World War II might come soon. He said that the I.C.C. would have issued such orders sometime ago if it had the staff that would be required for their administration. And he indicated his expectations that arrangements for administering such orders might be set up under the recently enacted legislation providing for over-all economic controls, which was this week awaiting President Truman's signature.

Carriers Would Approve

Asked if the railroads objected to heavy-loading orders, Colonel Johnson replied in the negative, adding that the carriers would favor them. He conceded that there might be some shipper opposition, but went on to say that a "thoughtful shipper" would realize that he gets his compensation when more cars than could otherwise be allotted to him are made available; and this more than offsets the increased cost of loading and unloading.

In commenting on the outlook for new freight cars, Colonel Johnson said he was "confident" that the government would make the necessary steel available. He then added that "orders are as important as steel" to a car-building program. And he went on to recall the situation immediately after World War II, when, as he put it, "we had the steel and orders fell down." If that happens again, the I.C.C. chairman continued, "the government should be ready."

This drew a question as to the attitude of the railroads toward proposals that the government build a

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One million miles of service from engine parts!

LUBRICATED WITH RPM DELO R.R. OIL, many diesel engines in the locomotives of U.S. railroads have been in service for long periods without complete overhaul! Many of the liners, pistons, bushings and other parts in these engines have now been in use for hundreds of thousands of miles. Progressive maintenance inspections indicate that RPM DELO R.R. Oil will keep the parts in service for at least one million miles, the general overhaul period set by some of the railroads.

RPM DELO R.R. Oil keeps parts clean and free of wear-causing lacquer and gum deposits and is not corrosive to engine metals of any kind.



IN OVERLAND MOUNTAINOUS FREIGHT SERVICE for nearly 500,000 miles, this liner, lubricated with RPM DELO R.R. Oil has less than 0.006 inch wear and taper is so minor that it is barely measurable.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any one of the companies listed below.



THIS PISTON AND CONNECTING ROD have been in service for more than four years. After picture was taken it was put back in the engine for further use. Note the excellent condition of the rings and bearing. All the rings are free, oil holes open and there are no troublesome deposits in any ring grooves.

TRADEMARK "RPM DELO" REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA • San Francisco
THE CALIFORNIA OIL COMPANY • Barber, N.J., Chicago, New Orleans

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THE CALIFORNIA COMPANY • Denver, Colorado

pool of freight cars. "The railroads don't want the government in the car business, and I don't either," the colonel replied. His further comment indicated that he did not consider that the government would be in the car business under plans he has advocated for government purchase of cars to be leased to the railroads. As he put it, the leased cars "would be railroad cars, not U. S. cars." Colonel Johnson is on record in support of the "principle" of the bill, H.R. 9480, introduced by Representative Ellsworth, Republican of Oregon, to provide for acquisition by the government of a reserve supply of freight cars to be available for use by the railroads on the basis of need, as determined by the L.C.C. (See *Railway Age* of September 2, page 78.)

E.C.A. Group to Study American Rail Methods

Eighty-five top railroad officers and equipment manufacturers, representing 12 Marshall Plan countries, are coming to the United States to study techniques of railroad operation and production of railroad equipment. The group will spend six weeks in this country under the Economic Cooperation Administration's technical assistance program.

The Association of American Railroads is cooperating with the E.C.A. in preparing a study program for 73 members of the group. The A.A.R. program begins with a two-day orientation course at Chicago on September 11-12.

The remaining 12 members of the study group are industrialists and will not take part in the A.A.R. program. Instead, they will visit equipment manufacturers to study the newest designs and techniques in that field.

Members of the visiting railroad group include officers that hold positions corresponding generally to chief operating, engineering, mechanical and transportation officers in America. At the beginning of their tour, they will be divided into seven teams according to specialized interests.

On the opening day at Chicago, the group will hear addresses by President William T. Faricy of the A.A.R.; James H. Aydelott, vice-president in charge of the Operations and Maintenance Department of the A.A.R.; William H. Schmidt, western editor of *Railway Age*; and Caleb R. Megee, vice-chairman of the A.A.R.'s Car Service Division.

The second day of the orientation will include an address by Wayne A. Johnston, president of the Illinois Central, and a lecture by Ralph O. Jensen, division superintendent of the Minneapolis, St. Paul & Sault Ste. Marie. E. E. Foulks, superintendent of transportation, Atchison, Topeka & Santa Fe, will serve as orientation chairman for the tour of visiting railroad officials.

During the subsequent six-weeks'

tour, each of the various specialized teams will be under the supervision of an American expert retained by the A.A.R. for E.C.A. on a consultant basis. These specialized groups will study maintenance and design of locomotives and passenger and freight cars; operations of road, yards, terminals, stations and motor transport; communications and signals; engineering, involving maintenance of way and structures; statistics and accounting; traffic; and electrification.

Those who will serve as escort consultants to the groups are: W. M. English, Mechanical Division, A.A.R.; C. D. Merrill, assistant to the general manager, Pennsylvania; C. S. Hill, superintendent of stations and motor service, New York Central; W. R. Triem, general superintendent of telegraph, P.R.R.; C. H. Brown, statistical assistant to vice-president, A.A.R.; W. C. Otten, foreign freight traffic manager, Erie; H. F. Brown, electrical engineer, New York, New Haven & Hartford; and Mr. Foulks of the Santa Fe. John H. Trent, former vice-president of Johns-Manville Corporation, will be in charge of the 12-man group of industrialists.

Seven Months' Net Income Up \$68 Million Over 1949

Class I railroads in the first seven months of this year had an estimated net income, after interest and rentals, of \$269 million compared with \$201 million in the corresponding period of 1949, according to the Bureau of Railway Economics of the Association of American Railroads. The seven-month net railway operating income, before interest and rentals, was \$432,687,410, compared with \$366,392,857 in the same period of 1949.

Estimated results for July showed a net income of \$59 million, compared with \$26 million in July, 1949, while the net railway operating income for the 1950 month was \$84,059,798, compared with \$50,508,420 for July, 1949. In the 12 months ended with July, the rate of return averaged 3.14 per cent compared with 3.61 per cent for the 12 months ended with July, 1949.

Postal Officials Inspect New Storage Mail Car

A new type of storage mail car, designed to provide greater speed with low initial cost and minimum upkeep, was exhibited September 6 at Union station in Washington, D. C. The car, developed by the Pennsylvania, has a capacity of nearly three tons over conventional baggage cars of the same length and can be used for the transportation of freight and other materials as well as mail.

At Washington the car was inspected by Postmaster General Donaldson and other postal officials. The demonstration also featured the use of metal

containers instead of mail sacks for handling mail. These metal containers, which have a capacity of 40 cu. ft., are already being tested in mail service on the Pennsylvania, the New York Central, and the Atchison, Topeka & Santa Fe. Widespread use of the metal containers "theoretically should provide a 50 percent savings in handling costs," according to the post office department.

The new storage car combines a number of passenger-car developments with maximum carrying capacity plus four extra-wide doors to facilitate loading and unloading. High ceilings add to the storage space inside the car.

Wage Talks Resumed In B.R.T.-O.R.C. Case

Representatives of management and the involved unions participated in a September 6 conference at Washington, D. C., on the wage and rules dispute arising out of demands of the Brotherhood of Railroad Trainmen and Order of Railway Conductors. The conference was called by the National Mediation Board, and the management representatives said that "no progress" had been made.

The conference was the first held on the dispute since August 23, when the B.R.T. and O.R.C. issued the strike call that prompted President Truman to seize the railroads for operation by the secretary of the army. (See *Railway Age* of August 26, page 43, and September 2, page 71.) The strike call came after the break-up of a series of conferences which the parties had been holding with Dr. John R. Steelman, assistant to President Truman.

Although the pressure of other business prevented Dr. Steelman from attending the September 6 meeting, he is continuing his mediatory efforts in the case. As noted elsewhere in this issue, the Switchmen's Union of North America has settled its similar case on the basis of a Steelman proposal that was rejected by the B.R.T. and O.R.C.

Announces Upward Revision Of Air Parcel Post Rates

Postmaster General Donaldson has announced upward rate revisions for air parcel post, effective November 1, which are designed to "assure the receipt of revenue from such service adequate to pay the cost thereof."

The revisions are also designed to "promote" the service to the public, according to the post office department's statement announcing the change. Surveys have shown that about 50 per cent of the volume of air parcel post weighs one pound or less, and under the new rates the cost of mailing packages of this weight is not changed except in the first two postal zones where the basic rate becomes 60 cents instead of 55 cents. The heaviest upward revisions are for packages weighing more than one pound.

Experience has shown that present rates in the heavier categories are "un-



There just isn't a faster, more economical way to bulldoze fill than with an International Crawler and matched 'dozer. That's why the Louisville & Nashville R. R. chose an International TD-14 to build the fill for more tracks at their Strawberry Yard in Louisville. In fact, this tractor is one of several TD-14's used by the L. & N. for work on the right-of-way—ditching, grading and all the dozens of tasks needed to keep roadbeds in top shape.

International off-the-track power is excellent insurance of efficient and economical construction and maintenance work. Whether you have more tracks to be built, maintenance of way to be done or any of the many jobs demanding crawler tractor power, it will pay you to see International and compare. Compare Internationals with any other crawler, feature by feature. It's a sure bet, you'll select Internationals.

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economic," the statement said. It added that increased costs in handling the mails, new terminal mail facility charges at airports, and "other factors" made the revisions necessary. Since present air parcel post rates were established in June, 1948, monies paid to air carriers have increased an average of 44.7 per cent, the statement said.

In addition to emphasizing that "little change" to the general public will be caused by the new rates, the post office department said the revisions "will greatly simplify post office routine." Under the new rates, territories, possessions and overseas postal facilities of the Armed Forces are included in the Zone 8 rate.

Leasing Order Postponed

The Interstate Commerce Commission has postponed indefinitely the effective date of its order of June 26 in which it prescribed rules to govern the lease and interchange of motor vehicles. (See *Railway Age* of July 15, page 54.) The commission's order was to have been effective September 18. In postponing this date the I.C.C. said petitions for reconsideration of the June 26 order "have been filed by the Teamsters Union and others."

CAR SERVICE

I.C.C. Service Order No. 855-A, effective September 1, vacated Service Order No. 855 which authorized railroads serving Colorado, Kansas, Missouri, Nebraska, Wyoming and South Dakota to furnish for each box car ordered not more than two refrigerator cars or not more than two single-deck stock cars for the transportation of alfalfa meal or any other commodity between points in the states named.

I.C.C. Service Order No. 857-A, effective September 1, vacated Service Order No. 857 which had authorized the use of B.R.E., W.F.E., or F.G.E. refrigerator cars in lieu of one box car ordered for transportation of freight and vegetable containers originating and terminating in the states of Pennsylvania, Delaware, Maryland and New Jersey.

ORGANIZATIONS

Accounting Division Sets Dates for 1951 Meeting

June 11 to 14, inclusive, and New York's Biltmore Hotel have been selected as the time and place for the 1951 annual meeting of the Accounting Division, Association of American Railroads. The selections were

made by the committee on arrangements to which the matters were referred when the division voted at its recent Ottawa meeting to hold next year's convention in New York.

In accordance with the usual plan, June 11 will be devoted to the customary "open-house" meeting of the division's standing committees, and the annual meeting will extend over the three following days. The division's chairman is I. V. Jessee, comptroller of the Norfolk & Western, and G. H. Albach, comptroller of the New York Central, is chairman of the committee on arrangements for the 1951 meeting.

Communications Convention

The 27th annual session of the Communications Section of the Association of American Railroads is to be held at French Lick Springs Hotel, French Lick, Ind., on October 17, 18 and 19, with opening addresses by J. W. Barriger, president of the Chicago, Indianapolis & Louisville; Commissioner E. M. Webster of the Federal Communications Commission, and J. H. Aydelott, vice-president of the A.A.R. A new feature of the session will include the presentation of nine short talks by railroad communications men, dealing with unusual installations and routines devised by their roads to overcome special problems.

In line with previous practice, two special papers will be presented, and 61 items in the Book of Reports of nine standing committees and four sub-committees, to be distributed early in September, will be considered and discussed. Several manufacturers and members of the Railway Telegraph & Telephone Appliance Association will again have exhibits of modern communications equipment.

A "rail ramble" from Chicago, Michigan City, Ind., and South Bend, to Louisville, Ky., and return will be sponsored by the **Railway & Locomotive Historical Society's Northern Indiana Chapter** on September 23 and 24. Trains of the Chicago South Shore & South Bend will take the rail fans to Michigan City, from which point they will ride a special train over the Michigan City branch and the main line of the Chicago, Indianapolis & Louisville. At Louisville, the group will inspect the Kentucky & Indiana Terminal and other railroad facilities of the Louisville area.

The **Midwest Shippers Advisory Board** will hold its 92nd regular meeting in the Chamber of Commerce building, Fort Wayne, Ind., on October 11 and 12. The **Transportation Club of Fort Wayne** will hold a dinner meeting in the same building on the 11th and all members of the advisory board are invited to attend. H. A. Hollopeter, traffic director of the Indiana State Chamber of Commerce, will be the principal speaker.

The **Ohio Valley Transportation Advisory Board** will hold its 95th regular meeting on September 20 in the Kentucky Hotel, Louisville, Ky. A luncheon session sponsored jointly with the **Transportation Club of Louisville** will be held in the Terrace Room at 12:15 p.m. Thomas A. Ballantine, president of the Louisville Chamber of Commerce and of the Louisville Taxicab & Transfer Co., will be the guest speaker.

Alfred F. Hall, assistant to vice-president, employee and public relations, of the Railway Express Agency, will address the **Transportation Club of Decatur**, Ill., on "A Milestone in Transportation" at its meeting on September 12.

Arthur J. Maurer, who for 22 years has been a member of the transportation department of the **Chicago Association of Commerce & Industry**, has been appointed assistant traffic director. Mr. Maurer also will continue to serve as secretary of the Industrial Traffic Council and as secretary-treasurer of the Illinois Territory Industrial Traffic League.

SUPPLY TRADE

W. B. Barnard has been appointed sales and service engineer for transportation controls of the **Minneapolis-Honeywell Regulator Company**. He will serve transportation accounts in



W. B. Barnard

the southeastern states, with headquarters at Richmond, Va. Mr. Barnard formerly was in the Chicago office as field engineer for the company's western railroad accounts.

Robert G. Lewis, traffic and transportation department editor of *Railway Age*, has been appointed also assistant to president of the **Simmons-Boardman Publishing Corporation**, publishers of *Railway Age*, *Railway Mechanical & Electrical Engineer*, *Rail-*

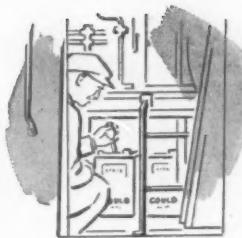


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Railway Engineering & Maintenance, and *Railway Signaling & Communications*. While relinquishing his editorial duties only in part, Mr. Lewis will henceforth devote a large portion of his time to servicing that part of the circulation of the Simmons-Boardman railway papers which is contracted for by railroads. Coincident with the added duties being assigned to Mr. Lewis, *Railway Age's* editorial staff on traffic and transportation is being expanded by the transfer of J. W. Milliken to this department at New York, and by the addition, as associate editor at Chicago, of J. R. Gallagher, until recently traffic analyst for the New York, New Haven & Hartford, at Boston, Mass.



Robert G. Lewis

Born in Philadelphia, Pa., in 1916, and educated in the public schools there, Mr. Lewis entered railroad service on August 8, 1934, in the general offices of the Pennsylvania at Philadelphia, serving successively in the operating department, office of chief of personnel, labor and wage bureau and office of superintendent passenger transportation. From April, 1940, to January, 1941, he served in the purchasing department and office of supervisor of wage schedules of the Bessemer & Lake Erie, at Greenville, Pa. Returning to the P.R.R., he was employed with the freight traffic department at Cleveland, Ohio, and Akron until he joined the Navy in 1942. There he saw service, among other duties, as flag yeoman to commander, air force, Pacific Fleet, and in the Transportation Division, Bureau of Naval Personnel. Mustered out in 1946 as chief petty officer, Mr. Lewis rejoined the Pennsylvania's freight traffic department at Akron, moving successively to Cleveland and Pittsburgh, Pa., until March, 1947, when he joined *Railway Age* as associate editor at Chicago. In April, 1950, he was promoted to transportation editor. For the past three years Mr. Lewis has edited the proceedings of the American Association of Railroad Superintendents.

The American Car & Foundry Co. has appointed John C. Coonley as manager of the valve division, with

headquarters as before at Detroit, Mich., succeeding W. R. Kottsieper, who has retired after more than 44 years of service. Mr. Coonley was associated with the Walworth Com-



John C. Coonley

pany as salesman, engineer and tool design superintendent for many years before joining A.C.F. in June of this year, as assistant manager of the valve division.



W. J. Binder, who has been appointed manager of the engineering service department of A. M. Byers Company, Pittsburgh, Pa. Mr. Binder has been with the Byers organization since 1946

Iron & Steel Products, Inc., of Chicago, has announced that, effective September 1, W. E. Corr of Norfolk, Va., is no longer associated with its organization.

John F. Corcoran, former assistant to the president of the American Locomotive Company, at Chicago, entered the railway supply field with his own organization at 1101 Vermont Ave., Washington, D. C., on September 1.

The Hyster Company, Portland, Ore., has appointed the Ortner Company, Terrace Plaza building, Cincinnati, Ohio, as special sales representative to contact a number of eastern railroads in connection with Hyster lift

trucks, turret trucks, straddle trucks, attachments and parts.

Walter C. Anderson, director of construction materials sales for the eastern district of the American Steel & Wire Co., a U. S. Steel subsidiary, has been appointed assistant manager of the construction materials products sales division, and Earl N. Graf, director of wire rope sales for the eastern district, has been named assistant manager of the wire rope products sales division. Both men will maintain headquarters at the general sales offices in Cleveland, Ohio.



James F. Clark (above), has been elected vice-president and treasurer of the American Car & Foundry Co., and Phillips B. Hoyt (below), has been elected vice-president in charge of purchases. Mr. Clark was formerly treasurer, and Mr. Hoyt, director of purchases



The Rinshed-Mason Company, Detroit, Mich., has purchased the former Calton plant, at 1440 N. Lemon street, Anaheim, Cal. Edward S. Hawkins, director of automotive finishes at Detroit, will be general manager of the new western division.

Charles P. Madely, formerly plant manager of the Montreal Locomotive Works, has been appointed manager of industrial sales, a newly created position.

The Graybar Electric Company
(Continued on page 87)

always looking into the future...



AIRCO RESEARCH *tames* ***the tough-to-weld metals***

Air Reduction's planned research and development program has brought forth many new products and techniques for the metal working industry — the latest is the patented Aircomatic® Process.

Without a doubt, this revolutionary welding process represents one of the greatest advances in metal working history. It is a gas-shielded metal arc method of welding which permits the joining of aluminum, aluminum bronze and stainless steel — *in all positions at welding speeds higher than ever before possible.*

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continuously through a specially designed gun . . . and, of utmost importance, the process deposits a weld metal with an analysis almost identical to the base metal.

Further, to widen the field of Aircomatic application, Airco research is still working to achieve higher welding speeds and greater welding economies.

But, research on this high-speed welding technique is only one phase of Air Reduction's accelerated program. This same forward thinking is at work in the development of oxygen and acetylene processes — and products — for the entire metal industry.



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No other locomotive
builder offers such precision
testing equipment

An innovation in scientific railroad testing, the Electro-Motive engineering test car is equipped with latest recording instruments to obtain accurate data on all phases of performance while locomotives are in actual service. It plays a big part in road checking of new General Motors locomotives and serves railroads by providing details of Diesel operation unavailable elsewhere.

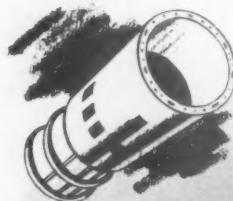


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He found Peru in 1532, conquered it, held the Inca chief for ransom and collected gold enough to fill a living room. But he couldn't make it work again.



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Like the use of unprocessed Diesel liners, Pizarro's one-time method showed a loss. (Secretly, the Incas did away with far more treasure than they paid him.) But PORUS-KROME pays the same high returns, no matter how many times Diesel liners are reprocessed. Each time, they wear up to four times longer than without it.

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Along that line, here's a *legitimate* jackpot for you. With VANDERLOY M, even scrap liners come back to original size and give better-than-new service!

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VAN DER HORST
TRADE MARK

(Continued from page 82)
has opened a new office, warehouse and display room at 1702 Cullen boulevard, Houston, Tex.

OBITUARY

Walter L. Turner, Jr., eastern engineering editor of *Railway Age* and eastern editor of *Railway Engineering and Maintenance*, died at the Paterson General Hospital, Paterson, N. J., on September 1, following a protracted illness.

Mr. Turner was born at Bluefield, W. Va., on January 27, 1913, and was educated at Virginia Polytechnic Institute, from which he was graduated with the degree of Bachelor of Science in Civil Engineering in 1935.

He entered railroad service on April 23, 1936, as a rodman in the office of the chief engineer of the Central region of the Pennsylvania, serving in that capacity at various locations until March 15, 1937, when he became an engineer apprentice on the Pennsylvania's Buffalo division at Buffalo, N. Y. Subsequently, from September 16, 1937, to April 5, 1938, he was assistant on the engineering corps of the

ma as a first lieutenant, captain and major in the Coast Artillery Corps of the United States Army, returning to the Pennsylvania on December 1, 1945, as assistant supervisor of track on the Eastern division at Freedom, Pa.

Mr. Turner's association with Simons-Boardman railway publications dated from April 23, 1946, when he was employed as an associate editor of *Railway Age* and *Railway Engineering and Maintenance*, at Chicago. On August 31, 1948, he was transferred to New York as eastern engineering editor of the former publication and eastern editor of the latter. He has been the author of numerous railroad engineering articles in both publications; his final article, "Service Stations for Small Terminals," was published on page 52 of last week's *Railway Age*. That article, a description of Norfolk & Western locomotive servicing facilities at Winston-Salem, N. C., and Pulaski, Va., was based on information which Mr. Turner obtained on a trip to those and other nearby points just before he entered the hospital last June.

Mr. Turner was secretary-treasurer of the Metropolitan Maintenance of Way Club; a member of the American Railway Engineering Association, the Roadmasters & Maintenance of Way Association, the American Railway Bridge & Building Association, the New York Railroad Club and the New England Railroad Club; and an Army reserve officer.



Walter L. Turner, Jr.

railroad's Buffalo, Eastern and Pittsburgh divisions.

On April 15, 1938, Mr. Turner became a party chief for the Pennsylvania Turnpike Commission, with headquarters at Bedford, Pa., where he remained until his return to railroad service on February 1, 1939, as assistant on the engineering corps of the P. R. R.'s Eastern division at Alliance, Ohio. He later served in the same capacity on the E. & A. division at Niles, Ohio, from November 16, 1939, to May 31, 1940, and in the office of the chief engineer, maintenance of way, Central region, at Pittsburgh, Pa., from June 1, 1940, to October 15 of the same year. On the latter date he became assistant supervisor of track on the Williamsport division at Lock Haven, Pa., remaining in that position until he was called into active military service on March 28, 1941.

From then until November 30, 1945, he served in this country and in Pan-

car, first- and second-class sleeping cars, restaurant car, salon car with bar, and observation car. The observation car is equipped with a library, writing room, ironing room, shower bath, and photographic dark room. The train crew are English speaking. The train operates on a standard tour beginning at Stockholm and traveling via Upsala to the iron ore and waterfall country in the far North, and across the Arctic circle to Narvik, Norway.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The Central Vermont has ordered two 30-cu. yd., 50-ton, air dump cars from the Magor Car Corporation. The cars will cost \$8,530 each and are scheduled for delivery at New London, Conn., next December or January, 1951.

The Chicago & Eastern Illinois is currently building 200 gondola cars at its shops at Danville, Ill. Construction of these recently ordered cars will make a total of 338 gondolas built at Danville since the beginning of this year. Other recent freight car orders by the C&E.I. were reported in the *Railway Age* of August 19, page 54.

OVERSEAS

Korea.—The Economic Cooperation Administration has authorized expenditures of approximately \$4,340,000 to help maintain the rail transportation system of Korea, according to Dr. Edgar A. J. Johnson, director of E.C.A.'s Korea program.

Since the start of hostilities, Dr. Johnson reported recently, E.C.A. purchase approvals for Korean railroad equipment have been as follows: \$1,330,000 for standard gage locomotives; \$1,750,000 for locomotive repairs; \$527,000 for railroad repair equipment; \$250,000 for flat cars; \$190,000 for freight car tanks; \$135,000 for freight trucks; \$85,000 for creosoted bridge and switch ties; \$40,000 for replacement parts for locomotives; \$28,000 for railroad equipment; and \$5,000 for tubes and pipe for locomotives.

These purchases are being coordinated with the military supply program, and E.C.A. officials declined to discuss details of the equipment because of military security.

Sweden.—The Swedish State Railways have introduced a special land-cruise train of 48-passenger capacity, according to the *Railway Gazette* (London). The train consists of a baggage

PASSENGER CARS

The Great Northern is building four streamlined baggage-express cars at its St. Cloud, Minn., shops. The cars will be 79 ft., 2 in. over coupler faces, and will be contoured and colored to fit into the road's various streamlined trains. The interiors of all four cars will be fitted with fish racks.

LOCOMOTIVES

P.R.R. Orders 337 Diesel Units Costing \$55,000,000

The Pennsylvania has ordered 337 Diesel-electric locomotive units, costing about \$55,000,000, the financing of which has been arranged with insurance companies and banks. The American Locomotive-General Electric Companies will build 13 660-hp. and 16 1,000-hp. switching units, 2 1,000-hp. and 15 1,600-hp. road-switching units and 18 1,600-hp. freight units. The Baldwin Locomotive Works will construct 60 1,600-hp. road units, 6 800-hp. and 19 1,200-hp. switching units, 9 1,600-hp. general purpose units and 14 2,400-hp. transfer units. Electro-Motive Division of General Motors Corporation will build 18 2,250-hp. passenger units, 14 1,200-hp. switching units, and 68 1,500-hp. "A" freight and 28 1,500-hp. "B" freight units. Fair-

SPEED HANDLING OPERATIONS

KRANE KAR — Swing Boom Mobile Crane



Wheel and Axle Carrier Attachment (patented) shown carrying 2 wheel-sets. The carrier arms are folded back out of the way when not in use. The hook can carry still another wheel-set or truck, lift and spot them, carrying off replaced ones at same time. Write for Bulletin No. 69.

Avoid duplicate handling! — KRANE KAR Lifts, Carries, Swings, and Places loads . . . at sides as well as front. 9 to 37 ft. booms or adjustable telescopic booms; pneumatic or solid rubber tires; gasoline or Diesel. For Wheel, Car and Locomotive Repairs, Stores Handling, and Maintenance of Way operations. Agents in principal cities.

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1½, 2½, 5, AND 10 TON CAPACITIES

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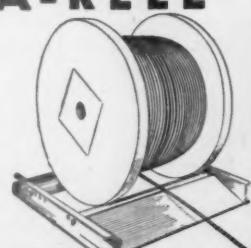
Time to Discard OLD-FASHIONED WAYS

Jacks . . . props . . . shores . . . horses . . . why fool with these obsolete methods of handling reels? DO IT THE MODERN, EFFICIENT WAY!

Reel or unreel wire, cable, rope with

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banks, Morse & Co. will furnish 26 2,000-hp. road-switching units. The Lima-Hamilton Corporation will supply 11 2,400-hp. transfer units.

Walter S. Franklin, P.R.R. president, in announcing the new order, said: "Financing of the large expenditure for the new Diesel-electric locomotives and for the 5,000 new freight cars ordered in July [see *Railway Age* of August 5, page 73] has already been satisfactorily arranged and no equipment trust certificates will be issued. However, there remains from the total \$488,000,000 improvement program an issue of \$10,000,000 equipment trust certificates scheduled for sale on September 12, covering equipment ordered in an earlier part of the program. This will complete the financing for the entire program as it now stands." Mr. Franklin added that the decision to acquire the additional Diesel-electric locomotives was the outgrowth of a thorough study of the road's present and future locomotive requirements. "On the Pennsylvania," he said, "there are many train operations now powered by steam locomotives, and in a number of instances the economies inherent in Dieselization, compared with steam power, are not sufficient to warrant the investment in Diesels. For this reason we intend to continue the use of steam power where it is economically justified."

of pits with multiple working levels; relocation of water lines, drainage and sewer systems; construction of a water purifying plant, and expansion of locomotive fueling and sanding facilities.

Announcement of this expansion of Diesel repair and maintenance facilities follows by about two weeks the placing by the Erie of an \$11-million order for 57 Diesel units (see *Railway Age* of August 26, page 61). These units, plus 62 others ordered last March will bring the Erie's total Diesel fleet to 399 units, representing an investment of some \$56 million, by mid-1951, Mr. Randall said. About 90 per cent of its

switching service, all its through passenger service and 50 per cent of its New Jersey suburban passenger service will be Diesel-operated at that time, he added.

When the work now authorized is completed, Marion—which is the site of the Erie's principal east-west freight classification yard—will serve as headquarters for most of the Diesel units assigned to freight service on the road's Western district. Hornell will become the road's principal eastern Diesel repair and maintenance center and the main point for servicing its Electro-Motive Diesels and the new two-unit, 4,500-hp. locomotives recently ordered

CONSTRUCTION

Erie to Spend \$1½ Million On Diesel Facilities

Plans for expenditure of approximately \$1½ million for expansion of the Erie's Diesel locomotive repair and maintenance facilities have been announced by R. C. Randall, vice-president, operations and maintenance.

About \$1 million will be spent at Marion, Ohio, to make it the largest Diesel maintenance point on the railroad. Actual construction work, expected to begin about December 1, calls for increasing the size of present Diesel shop buildings; additional engine pits, all with different levels to permit mechanics to work on any part of a locomotive without scaffolding; rearrangement of trackage in Marion yards to provide room for enlargement of buildings; and installation of modern lighting and heating equipment, traveling cranes and other materials handling facilities.

More than \$500,000 also will be spent at Hornell, N. Y., to make it the Erie's principal eastern Diesel locomotive repair and maintenance center. Work at Hornell, which is expected to begin about October 15, will include extensive revision in existing locomotive repair buildings; rearrangement of trackage into the shops; installation



THIS MODERNISTIC NEW STATION at Paterson, N. J. (foreground, above), was opened by the Erie on August 10, to replace the older building behind it. Participants in the dedication ceremonies included (left to right, below): I. H. Schram, chief engineer, Erie; Thomas L. Kelly, postmaster, Paterson; Vincent J. Schanlan, city engineer, Paterson; Thomas F. Vigorito, chairman of the board of public works, Paterson; Mrs. Michael U. DeVita, wife of the mayor of Paterson;

Mayor DeVita; Raymond C. Randall, vice-president, operations, Erie; H. A. Bookstaver, superintendent, New York division, Erie; Charles H. Roemer, finance commissioner, Paterson; Jack Slater, Greater Paterson Chamber of Commerce; G. C. White, general manager, Eastern district, Erie, and Joseph H. Graf, depot ticket agent, Erie. General contractor for the new station was the Albert P. Schmidt Construction Company, of Midland Park, N. J.



for through passenger trains. Three-unit locomotives now assigned to those trains will be transferred to freight service. Remaining steam locomotives will continue to be overhauled at Hornell back shop.

FINANCIAL

Wisconsin Central. — *Reorganization.*—A resolution calling for an investigation of this road's reorganization case was introduced in the Senate on August 31 by Senator O'Conor, Democrat of Maryland, on behalf of himself and Senator Ives, Republican of New York. The resolution, S. Res. 340, would direct the Senate committee on interstate and foreign commerce "to make a full and complete study and investigation to determine if undue delays and unnecessary consideration have occurred . . . and to ascertain reasons, if any, why the reorganization of said railway cannot be effected promptly." At the conclusion of such an investigation, the interstate commerce committee would report to the Senate "such recommendations as it may deem desirable." Senator O'Conor said the Interstate Commerce Commission has had this road's reorganization case under consideration for more than three years.

New Securities

Division 4 of the I.C.C. has authorized:

MAINE CENTRAL.—To assume liability for \$5,600,000 of equipment trust certificates to finance in part 13 Diesel-electric locomotives and to refinance the unpaid balance on other equipment previously acquired under conditional sales agreements. (See *Railway Age* of July 15, page 62.) The certificates, to be dated September 1, will mature in 10 annual installments of \$560,000 each, beginning September 1, 1951. Division 4's report approved a selling price of 99.05 with interest at 2½ per cent—the bid of Ha'sey, Stuart & Co.—which will make the average annual cost of the proceeds approximately 2.71 per cent. The certificates were reoffered to the public at prices yielding from 1.65 to 2.75 per cent, according to maturity.

Dividends Declared

Boston & Albany.—\$2, payable September 30 to holders of record August 31.

Chicago Great Western.—5% preferred, 62½¢, accumulated, payable September 29 to holders of record September 15.

Chicago South Shore & South Bend.—25¢, payable September 15 to holders of record September 5.

Denver & Rio Grande Western.—\$1, payable September 15 to holders of record September 7.

Norfolk Southern.—75¢, quarterly, payable September 15 to holders of record September 1.

Union Pacific.—common, \$1.25, quarterly; 4% preferred, \$1, semiannual, both payable October 2 to holders of record September 11.

United New Jersey R. R. & Canal.—\$2.50, quarterly, payable October 10 to holders of record September 20.

Security Price Averages

	Sept. 5	Last week	Last year
Average price of 20 representative railway stocks	45.98	46.35	37.30
Average price of 20 representative railway bonds	95.37	95.84	85.31

RAILWAY OFFICERS

EXECUTIVE

Lee L. Babcock, whose election as vice-president—industrial development of the KENTUCKY & INDIANA TERMINAL, at Louisville, Ky., was reported in the *Railway Age* of August 12, was born in that city on May 6, 1893. He entered the service of the K. & I. T. in September, 1910, holding various clerical positions in the transportation, accounting and mechanical departments until 1924, when he was made chief clerk to the manager and chief



Lee L. Babcock

editor of the road's employee magazine at Shreveport, La. From 1935 to 1942, he held the positions of assistant supervisor of personnel, acting supervisor



H. G. Townsend

of personnel and general claim agent for the L. & A. at Shreveport. Mr. Townsend became supervisor of personnel in 1942 after the K. C. S. acquired the L. & A.

J. R. Freed has been appointed assistant to vice-president of the READING at Philadelphia, Pa., succeeding **R. C. Klein**, who has been appointed assistant superintendent transportation.

George H. Minchin, vice-president—operations of the ATCHISON, TOPEKA & SANTA FE, with headquarters at Chicago, has been appointed senior vice-president. **Clarence R. Tucker**, assistant vice-president, operating department, succeeds Mr. Minchin.

The NEW YORK, NEW HAVEN & HARTFORD has announced the appointment of **Samuel A. Boyer** as assistant vice-president in charge of industrial development and passenger and freight promotion for the system. His main office will be in New York, with other



George Harley Burnette, who served as president of the Cambria & Indiana at Philadelphia, Pa., from August, 1940, until his retirement on July 1, spent 45 years in railroad service

offices in New Haven, Conn., and Boston, Mass. Mr. Boyer has been with the New Haven for the past 15 years. Formerly he was in charge of public relations and advertising for the states of New York and Connecticut.

Lloyd F. Donald, general manager of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC's Eastern Lines, with headquarters at Chicago, has been elected vice-president — operations at that point, to succeed **John P. Kiley**, who has been elected president and a director, as reported in the *Railway Age* of August 26, page 36.

FINANCIAL, LEGAL & ACCOUNTING

Keith H. Lyrla, who has been promoted to general auditor of the ILLINOIS CENTRAL, at Chicago, as reported by *Railway Age* on August 26, is a native of Champaign, Ill., where he attended public schools and the University of Illinois. He joined the I. C. in 1922 as a yard clerk at Centralia,



Keith H. Lyrla

Ill., and later held various positions in the operating and accounting departments at Centralia, Champaign, Hattiesburg, Miss., and McComb. Mr. Lyrla came to Chicago in 1929 as a valuation accountant. In 1941 he was advanced to auditor of disbursements, from which position he was recently promoted.

Louis Kofsky has been appointed assistant general attorney of the BOSTON & ALBANY at Boston, Mass.

Richard Booth Elster, whose promotion to general solicitor of the WABASH, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of August 5, was born at Plattsmouth, Neb., on February 27, 1903. Mr. Elster attended the Universities of Michigan and Nebraska, receiving his A.B. and LL.B. degrees from the latter. He entered the service of the Wabash in June, 1927, and has since held various positions in the road's law department at St. Louis, including those of assistant attorney,



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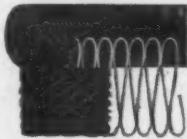
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assistant general attorney, assistant general solicitor and general attorney. Prior to his recent promotion he was serving as general attorney and commerce counsel.

Ernest C. Alexander, special assistant to the comptroller and general auditor of the BANGOR & AROOSTOOK at Bangor, Me., has retired after 55 years of service with that road.

The car accounting organization of the WESTERN PACIFIC has been transferred from the transportation department to the accounting department. **David J. Spowart**, superintendent of car service, has been appointed auditor of equipment service accounts, with headquarters as before at San Francisco, Cal.

Charles R. Hoffman, assistant freight claim agent of the SOUTHERN PACIFIC at Los Angeles, Cal., has retired after 41 years of service. He is succeeded by **George J. Petersen**, assistant freight claim agent at San Francisco, Cal. **G. F. Garland**, chief clerk in the freight claim department at San Francisco, succeeds Mr. Petersen.

OPERATING

R. C. Klein, assistant to vice-president of the READING, has been appointed assistant superintendent transportation, with headquarters as before at Philadelphia, Pa.

As reported in the *Railway Age* of August 19, **William Wallace** has been appointed general superintendent of transportation of the DELAWARE & HUDSON at Albany, N. Y. Mr. Wallace was born at Brooklyn, N. Y., on August 11, 1884, and entered railway



William Wallace

service in 1904 as a trainman with the D&H. He was appointed conductor in September, 1917; general yardmaster at Rouses Point, N. Y., in March, 1919; assistant trainmaster of the Champlain division in March, 1920, and trainmaster of that division in March, 1921. Mr. Wallace was transferred to the Saratoga division in October, 1923, and pro-

moted to superintendent of the Champlain division in January, 1930, transferring to the Susquehanna division at Oneonta, N. Y., in November, 1938.

Caleb Corser, who has been advanced to assistant general manager of the NORTHERN PACIFIC, with headquarters at Seattle, Wash., as reported by *Railway Age* on July 29, was born on April 2, 1884, in Minneapolis, Minn., and attended Minneapolis North High School. He began his railroad career in June, 1901, with the Great Northern, and during the next 24 years served with that road from 1901 to 1902 and again from 1904 to 1905; the Newton & North Western (now Fort



Caleb Corser

Dodge, Des Moines & Southern), from 1902 to 1903; the Chicago, Milwaukee, St. Paul & Pacific, from 1905 to 1907, and the Copper River & North Western (now abandoned), from 1907 to 1924. In 1925 he entered N. P. service as trainmaster at Minneapolis, later holding the positions successively of assistant superintendent at Fargo, N. D., and superintendent of the road's ore operations at Superior, Wis. Mr. Corser was appointed superintendent of the Lake Superior division in 1941, in which capacity he was serving at the time of his recent promotion.

R. B. Smith, assistant general manager of the CHICAGO, ROCK ISLAND & PACIFIC, at Des Moines, Iowa, has been transferred to El Reno, Okla., succeeding **B. R. Dew**. Mr. Dew has been moved to Kansas City, Mo., where he succeeds **R. E. Johnson**, assistant general manager at that point, who replaces Mr. Smith. **J. H. Hollenbeck**, assistant superintendent at Armourdale, Kan., has been promoted to terminal superintendent at Kansas City.

C. Holmes has been appointed trainmaster of the New York Terminal district of the NEW YORK CENTRAL.

J. R. Strother, superintendent of the CANADIAN PACIFIC at Edmonton, Alta., has been appointed general superintendent of the New Brunswick district at St. John, N. B., succeeding **Stanley W. Crabbe**, who has re-

tired after more than 47 years of service. Mr. Crabbe was born at Teeswater, Ont., on August 9, 1885, and entered railroad service on May 25, 1903, as telegraph operator with the C.P. He subsequently served as division superintendent at London, Ont., and superintendent of the Toronto Terminal and Bruce divisions. On November 15, 1945, Mr. Crabbe was appointed assistant general superintendent at St. John, and on September 1, 1946, became general superintendent there.

E. T. Truman, assistant superintendent of the CANADIAN PACIFIC at Windsor, Ont., has been promoted to superintendent, with headquarters at Edmonton, Alta.

William J. Whalen, assistant general manager, Lines East, of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Chicago, has been promoted to general manager, Lines East, succeeding **Lloyd F. Donald**, elected vice-president—operations, at Chicago, as reported elsewhere in this issue. Succeeding Mr. Whalen is **John J. O'Toole**, general superintendent of terminals at Chicago.

Leonard B. Clary, who has been promoted to general manager of the ST. LOUIS-SAN FRANCISCO and the ALABAMA, TENNESSEE & NORTHERN (part of the Frisco), with headquarters at Springfield, Mo., as reported by *Railway Age* on August 26, was born in Overbrook, Okla., on December 5, 1890. He began railroading with the Frisco



Leonard B. Clary

in 1908 as an agent-telegrapher on the Southwestern division, and subsequently served as dispatcher, chief dispatcher and trainmaster. In 1924 he was appointed assistant superintendent, and in 1935 was promoted to superintendent of the Western division, becoming superintendent of the Eastern division two years later. Subsequently he held the position of superintendent successively on the Southern, Southwestern and Eastern divisions until July, 1946, when he was appointed assistant to chief operating officer, at St. Louis, Mo. Mr. Clary became as-

sistant to president at St. Louis in June, 1947, and in May, 1948, was advanced to assistant general manager at Springfield, the post he held at the time of his current promotion.

T. V. Sherrier, assistant superintendent of the CHICAGO, INDIANAPOLIS & LOUISVILLE, has been promoted to superintendent, with headquarters as before at Lafayette, Ind., succeeding **C. C. Shoultz**, who has retired. **John V. Cole** has been appointed trainmaster at Bloomington, Ind. Mr. Shoultz was born at Bringhurst, Ind., on March 31, 1884. He entered railroad service in 1899 as a timekeeper and water boy in the maintenance of way department of the Monon, and subsequently served as brakeman on that road and the Illinois Central. From 1905 to 1917 he was a conductor on the Monon. During World War I, Mr. Shoultz was in the American Expeditionary Forces, resuming his position as conductor on the Monon in 1919. The following year he was appointed trainmaster on the Southern division, with headquarters at Lafayette, and in 1940 was promoted to superintendent.

TRAFFIC

As reported in the *Railway Age* of August 19, **E. V. Murphy** has been appointed general freight traffic manager of the NEW YORK, NEW HAVEN & HARTFORD at Boston, Mass. Mr. Murphy was born on July 25, 1893, at Fall River, Mass., and entered railroad service in July, 1913, with the New Haven, holding various positions in the freight traffic department until 1917, when he entered military service. In 1918 he returned to the traffic department and in March, 1922, became chief clerk to



E. V. Murphy

the general western freight agent at Pittsburgh, Pa. Five months later he was appointed traveling freight agent there and in 1924 became chief clerk to the western freight traffic manager at Chicago. He was appointed commercial agent in 1925, general agent in 1926, general western freight agent at Chicago in 1928, general traffic agent at Chicago in 1935, western traffic

manager at Chicago on December 1, 1944, and general freight sales manager at Boston on May 16, 1947.

William H. Stakelum, whose appointment as assistant freight traffic manager, rates and divisions, for the SOUTHERN PACIFIC LINES IN TEXAS & LOUISIANA, at Houston, Tex., was reported in the *Railway Age* of August 12, was born June 17, 1884, in New Orleans, La. Mr. Stakelum entered railroad service in April, 1905, in his native city as a stenographer in the S. P.'s claim department. In July of that year he was transferred in the same capacity to the traffic department, being advanced to traveling freight and passenger agent at New Iberia, La., in 1910. From 1913 to 1920 he served as division freight and passenger agent at Lake Charles, La. Subsequently he was appointed assistant general freight agent at New Orleans. In 1938 Mr. Stakelum became general freight agent at Houston, the position he held at the time of his recent appointment.

Roy Alvy Cooper, who has been promoted to general freight agent of the SOUTHERN PACIFIC LINES, at Houston, Tex., as reported by *Railway Age* on August 12, was born in Catoosa county, Ga., on August 10, 1897. Mr. Cooper received his higher education at Piedmont College, and entered railroad service in February, 1920, with the Southern at Chattanooga, Tenn. He subsequently held various positions with the Southern until 1927, when he joined the S. P. at Birmingham, Ala. He later served as chief clerk until 1937, at which time he became general freight and passenger agent. In 1944 Mr. Cooper was appointed general agent, and in August, 1949, was transferred to Houston as district freight agent, the position he held before his recent promotion.

Thomas J. King has been appointed general agent of the CHESAPEAKE & OHIO at Des Moines, Iowa.

R. C. Williams, commercial agent of the ATLANTIC COAST LINE at Lakeland, Fla., has been appointed general agent at St. Petersburg, Fla.

Francisco Lona, passenger traffic manager of the NATIONAL OF MEXICO, with headquarters at Mexico, D. F., has retired after more than 30 years with the system.

E. G. Disque, former traveling passenger agent, has been appointed general agent in charge of a new GRAND TRUNK WESTERN-CANADIAN NATIONAL passenger office opened at Milwaukee, Wis., on September 5.

MECHANICAL

As reported in the *Railway Age* of August 12, **H. J. Stein** has been appointed chief mechanical engineer of the ATLANTIC COAST LINE at Wilmington, N. C. Mr. Stein was born in London, England, on July 1, 1900, and

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attended the public schools of England and Montreal (Que.) Technical College. He began his railroad career with the Canadian National at Winnipeg, Man., in 1921 and



H. J. Stein

joined the A.C.L. in January, 1926, as mechanical draftsman at Wilmington. Mr. Stein subsequently served as lead mechanical draftsman, engineer of tests, electrical engineer and mechanical engineer, all at Wilmington.

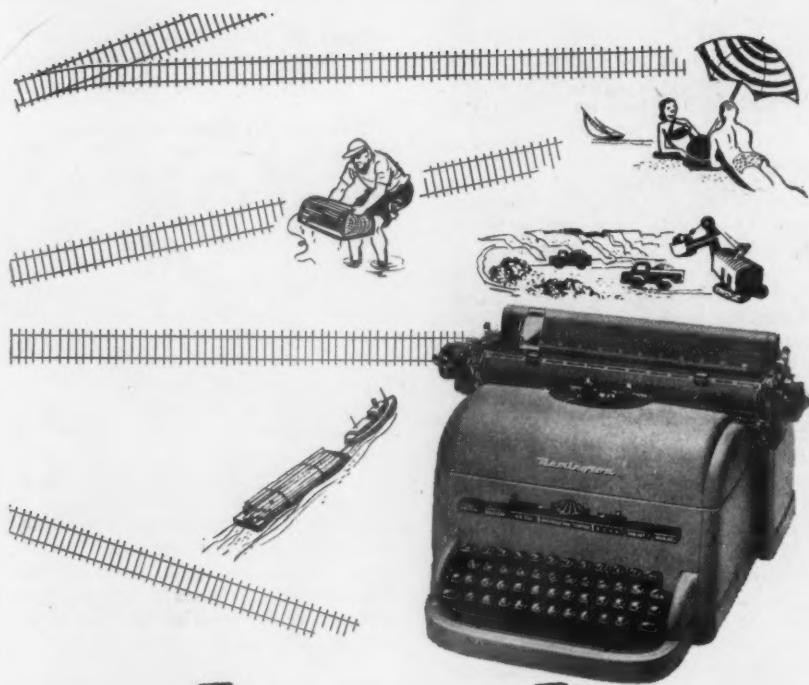
As reported in the *Railway Age* of August 5, H. M. Nelson has been appointed general mechanical superintendent of the FRUIT GROWERS EXPRESS, the WESTERN FRUIT EXPRESS and the BURLINGTON REFRIGERATOR EXPRESS at Alexandria, Va. Mr. Nelson was born in Missouri in 1907 and entered the service of the W.F.E. as a



H. M. Nelson

helper in June, 1925. After filling various shop assignments he was appointed general mechanical inspector at Wenatchee, Wash., in March, 1936; assistant to mechanical superintendent in September, 1943; mechanical superintendent of the three associated companies in May, 1947, and assistant general mechanical superintendent in February, 1950.

Richard E. Franklin, general foreman of the SOUTHERN at Ludlow,



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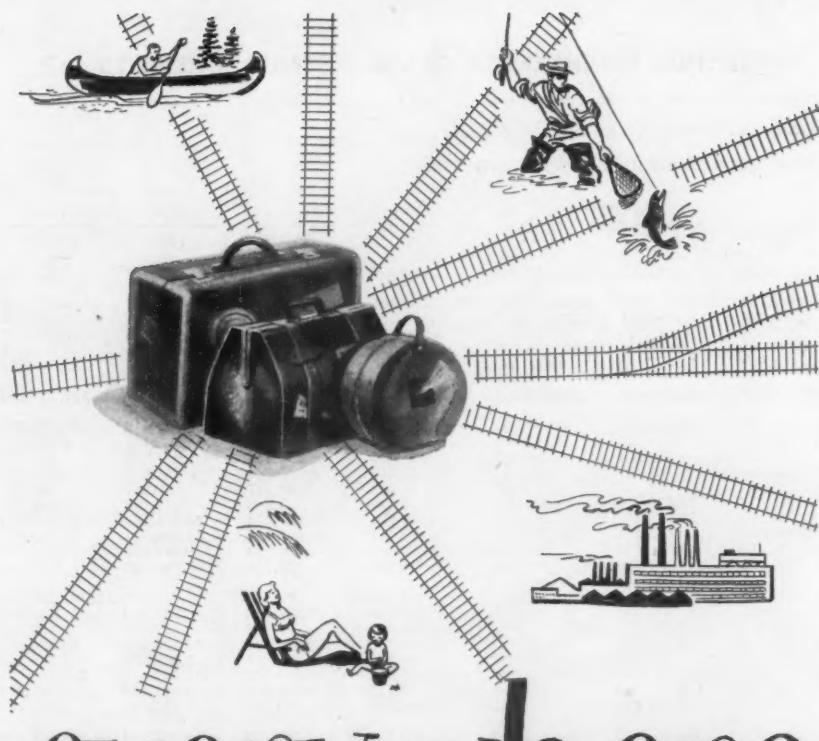
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Ky., has been promoted to master mechanic at Meridian, Miss., succeeding **John L. Christian**, who has been transferred to Birmingham, Ala., replacing the late **Karl A. Lentz**.

M. L. Hynes, district general car foreman of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Milwaukee, Wis., has retired. He is succeeded by **J. J. Drinka**, general car foreman at Minneapolis, Minn.

SPECIAL

O. M. Davison, superintendent of personnel of the KANSAS CITY SOUTHERN LINES, at Kansas City, Mo., has retired after more than 46 years service. Succeeding to the duties formerly performed by Mr. Davison are **D. E. Farrar**, who has become superintendent of personnel, with jurisdiction over matters pertaining to employment, personnel records, group insurance and personnel activities, and **H. G. Townsend**, who has been appointed assistant to vice-president—labor, as reported elsewhere in this issue.

Mr. Davison started with the K. C. S. in July, 1904, as a laborer at Pittsburg, Kan., and later served as warehouseman, ticket clerk, bill clerk and assistant accountant. In 1910 he was transferred to Kansas City, where he served as a clerk in the general roadmaster's office, and, after holding various other positions, in 1916 was elected supervisor of the road's hospital association. Three years later Mr. Davison was appointed wage supervisor at Kansas City, and in 1923 became supervisor of wages and working agreements. He has been serving as superintendent of personnel since March, 1942.

Mr. Farrar obtained his law degree by attending the Kansas City School of Law evenings. He entered the service of the K. C. S. in 1928 as an office boy in the passenger department at Kansas City. In 1930 he became a stenographer in the legal department, and subsequently held various positions until 1948, when he was appointed supervisor of personnel.

OBITUARY

Allen A. Raymond, superintendent of fuel and locomotive performance of the NEW YORK CENTRAL SYSTEM at Buffalo, N. Y., died on August 30 in the Norwalk (Conn.) hospital, at the age of 64.

Lyman B. Pond, assistant comptroller of the NEW YORK, NEW HAVEN & HARTFORD, at New Haven, Conn., died on September 2 at St. Raphael's Hospital in that city, at the age of 53. Mr. Pond joined the New Haven as a clerk at the Boston freight terminal on September 2, 1913, and later served as agent and operator on the Providence division. He then served successively as traveling auditor, district accountant, station accountant, auditor of revenues, assistant to comptroller and assistant comptroller.

OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

Compiled from 127 monthly reports of revenues and expenses representing 131 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JUNE 1950 AND 1949

Item	United States		Eastern District		Southern District		Western District	
	1950	1949	1950	1949	1950	1949	1950	1949
Miles of road operated at close of month	226,432	226,633	53,352	53,480	46,093	46,048	126,987	127,105
Revenues:								
Freight	\$649,228,253	\$599,517,962	\$246,517,075	\$218,266,399	\$131,359,101	\$116,771,907	\$271,352,077	\$264,479,656
Passenger	71,660,287	77,076,490	37,962,254	39,117,257	9,050,670	10,680,755	24,647,363	27,278,478
Mail	17,589,818	17,549,666	6,363,465	6,295,869	3,229,387	3,258,246	7,996,966	7,995,551
Express	7,798,926	8,195,625	2,565,501	2,094,593	1,001,997	1,129,147	4,231,428	4,971,885
All other operating revenues	32,905,105	33,111,525	14,617,143	14,626,235	5,227,835	5,465,600	13,060,127	13,019,690
Railway operating revenues	779,182,389	735,451,268	308,025,438	280,400,353	149,868,990	137,305,655	321,287,961	317,745,260
Expenses:								
Maintenance of way and structures	115,712,687	122,805,305	40,505,565	43,701,436	23,626,712	23,581,113	51,580,410	55,522,756
Depreciation	10,847,620	10,609,512	4,516,380	4,428,265	1,967,539	1,886,446	4,363,701	4,294,801
Retirements	1,625,913	797,189	319,654	207,239	255,046	138,176	1,051,213	451,774
Deferred maintenance	*93,639	*234,877			*42,513	*85,845	*51,126	*149,032
Amortization of defense projects	156,040	151,575	19,751	15,467	46,202	46,817	90,087	89,291
Equalization	*4,212,849	*5,982,559	*2,877,505	*3,049,843	*615,346	*1,489,395	*719,998	*1,443,321
All other	107,389,602	117,464,465	38,527,285	42,100,308	22,015,784	23,084,914	46,846,533	52,279,243
Maintenance of equipment	141,671,292	138,046,352	60,433,374	55,486,326	27,802,967	28,893,382	53,434,951	53,666,644
Depreciation	24,877,982	23,420,452	9,378,458	9,091,037	5,537,064	5,296,588	9,962,460	9,032,827
Retirements	*47,452	*61,095	*7,200	*6,988	*24,083	*39,759	*16,169	*14,348
Deferred maintenance and major repairs	*136,794	*122,900	*68,292	*51,866	*36,763	*5,353	*31,739	*65,681
Amortization of defense projects	1,216,215	1,221,422	451,452	450,911	234,029	238,288	530,734	532,223
Equalization	1,884,698	*120,325	1,622,825	*34,908	*217,405	53,924	479,278	*139,341
All other	113,876,643	113,708,790	49,056,131	46,038,140	22,310,125	23,349,694	42,510,387	44,320,964
Traffic	16,239,628	16,270,752	5,580,947	5,576,298	3,349,399	3,421,861	7,309,282	7,272,593
Transportation—Rail line	282,995,940	278,760,232	120,281,318	117,367,495	50,496,692	50,005,032	112,217,930	111,387,705
Miscellaneous operations	9,580,817	9,499,943	3,223,428	3,452,592	1,250,273	1,258,873	5,107,116	4,788,478
General	22,562,943	22,809,873	8,781,670	8,803,246	4,963,814	4,989,322	8,817,459	9,017,305
Railway operating expenses	588,763,307	588,192,457	238,806,302	234,387,393	111,489,857	112,149,583	238,467,148	241,655,481
Net revenue from railway operations	190,419,082	147,258,811	69,219,136	46,012,960	38,379,133	25,156,072	82,820,813	76,089,779
Railway tax accruals	44,272,231	72,554,120	30,102,886	23,504,039	19,548,984	14,968,885	34,620,361	34,081,196
Pay-roll taxes	22,121,084	21,885,143	9,113,633	8,897,990	4,178,957	4,217,073	8,828,494	8,770,080
Federal income taxes†	34,360,845	24,059,205	10,827,797	4,782,658	9,613,027	5,631,549	13,920,021	13,644,998
All other taxes	27,790,302	26,669,772	10,161,456	9,823,391	5,757,000	5,120,263	11,871,846	11,666,118
Railway operating income	106,146,851	74,704,691	39,116,250	22,508,921	18,830,149	10,187,187	48,200,452	42,008,583
Equipment rents—Dr. balance	12,932,154	10,540,231	6,204,860	4,700,338	*1,241,445	*1,715,348	7,968,739	7,555,241
Joint facility rent—Dr. balance	3,167,977	3,052,903	1,480,765	1,523,745	481,742	451,918	1,205,470	1,077,240
Net railway operating income	90,046,720	61,111,557	31,430,625	16,284,838	19,589,852	11,450,617	39,026,243	33,376,102
Ratio of expenses to revenues (percent)	75.6	80.0	77.5	83.6	74.4	81.7	74.2	76.1

FOR THE SIX MONTHS ENDED WITH JUNE 1950 AND 1949

Item	United States		Eastern District		Southern District		Western District	
	1950	1949	1950	1949	1950	1949	1950	1949
Miles of road operated at close of month	226,553	226,667	53,366	53,482	46,131	46,043	127,056	127,142
Revenues:								
Freight	\$3,535,622,399	\$3,605,835,646	\$1,330,995,760	\$1,385,555,866	\$748,483,614	\$754,733,980	\$1,456,143,025	\$1,465,545,800
Passenger	376,141,697	430,098,674	201,637,121	223,818,704	59,054,873	71,045,376	115,449,703	135,234,594
Mail	106,958,283	108,189,942	38,815,793	39,425,335	19,053,450	19,791,187	49,089,040	48,973,420
Express	33,724,545	36,651,304	9,798,981	9,675,661	6,488,008	6,890,655	17,437,556	20,084,988
All other operating revenues	171,260,351	188,600,171	76,066,934	84,442,798	29,565,897	32,300,370	65,627,520	71,857,003
Railway operating revenues	4,223,707,275	4,369,375,737	1,657,314,589	1,742,918,364	862,645,842	884,761,568	1,703,746,844	1,741,695,805
Expenses:								
Maintenance of way and structures	606,966,300	661,201,723	209,469,538	236,989,464	131,753,458	134,923,667	265,743,304	289,288,592
Depreciation	64,805,898	63,455,574	27,048,881	26,655,970	11,677,114	11,147,487	26,079,903	25,652,117
Retirements	6,099,596	4,863,630	1,932,382	1,449,004	1,184,561	781,174	2,982,653	2,633,452
Deferred maintenance	*1,152,550	*1,472,044	*800,000	*328,422	*134,593	*376,480	*217,957	*767,142
Amortization of defense projects	914,206	895,555	109,421	92,270	278,024	284,164	526,761	519,121
Equalization	5,606,677	*3,578,547	2,205,239	*1,715,069	4,489,478	676,569	*1,088,040	*2,540,047
All other	530,692,473	597,037,555	178,973,615	210,835,711	114,258,874	122,410,753	237,459,984	263,791,091
Maintenance of equipment	808,596,288	838,751,640	335,830,947	343,921,353	159,012,527	170,379,995	313,752,814	324,450,292
Depreciation	146,058,633	136,180,669	54,241,473	52,648,232	32,804,717	30,594,623	59,012,443	52,937,814
Retirements	*262,015	*392,059	*34,262	*72,636	*127,375	*102,687	*100,378	*216,736
Deferred maintenance and major repairs	*8,802,953	*799,531	*8,452,096	*399,616	*61,642	*193,164	*289,215	*206,751
Amortization of defense projects	7,323,162	7,331,766	2,708,957	2,705,768	1,422,074	1,432,700	3,192,131	3,193,298
Equalization	2,182,943	1,061,755	1,773,711	*28,714	871,023	1,142,361	*461,791	*51,892
All other	662,096,518	695,369,040	285,593,164	289,068,319	124,103,730	137,506,162	252,399,624	268,794,559
Traffic	95,525,189	98,811,885	32,365,305	33,668,915	20,020,468	20,854,624	43,139,416	44,288,346
Transportation—Rail line	1,655,929,808	1,757,372,527	705,049,601	742,996,270	305,495,109	326,007,946	645,385,098	688,368,311
Miscellaneous operations	52,784,013	59,777,312	19,239,904	22,503,411	8,237,935	9,260,996	25,306,174	28,012,905
General	134,340,322	139,461,565	51,823,672	54,054,016	28,760,854	29,754,128	53,755,796	55,653,421
Railway operating expenses	3,354,141,920	3,555,376,652	1,353,778,967	1,434,133,429	653,280,351	691,181,356	1,347,062,602	1,430,061,867
Net revenue from railway operations	869,565,355	813,999,085	303,535,622	308,784,935	209,365,491	193,580,212	356,664,242	311,633,938
Railway tax accruals	433,384,975	418,668,806	147,084,035	152,300,172	105,801,738	100,030,093	180,499,202	166,338,541
Pay-roll taxes	125,272,018	129,150,865	51,305,812	53,113,141	23,897,884	25,035,507	50,068,322	51,002,217
Federal income taxes†	145,461,539	129,651,621	37,093,406	40,393,306	47,037,101	41,834,038	61,331,030	47,464,277
All other taxes	162,651,418	159,866,320	58,684,815	58,833,725	34,866,753	33,160,548	69,099,850	67,872,047
Railway operating income	436,180,380	395,330,279	156,451,587	156,484,763	103,563,753	93,550,119	176,165,040	145,295,397
Equipment rents—Dr. balance	68,970,126	60,853,307	32,30					

Current Publications

FILMS

French National Railroads, 610 Fifth ave., New York 20.

The following 16-mm. films are available from the French National Railroads: Pilotes du Rail (in French); 2D-2 (Electric Locomotive) (in English); An Intricate Problem (Viaduct of Caronte) (in English); Chalampé Bridge (in English); Tracking Down Tuberculosis (Signal d'Alarme) (in French); and Restoration of the French Railroads (La Renaissance du Rail) (in English). The following 35-mm. films are available: Testing Railroads (Essais du Ban de Vitry) (in French), and Reconstruction of the Chaumont Viaduct (in French).

TRADE PUBLICATION

How to Increase Profitable Sales, 26 pages. Published by Remington Rand, Inc., Management Controls division, 315 Fourth ave., New York 10. Free; ask for KD524.

Based on 30 years experience of the Remington Rand organization in developing sales administrative systems and procedures, this booklet tells how machines and systems may be utilized to compile sales analysis facts, and use them for checking sales by individual accounts, by prospects, by salesmen and by territory. A unique automatic computing chart is included which graphically signals percentage of sales against quota for individual accounts without any mental or mechanical computation, and permits calculation of performance on "last 12 months" basis instead of the conventional year to date basis.

PAMPHLETS

Some Aspects of the Problem of Transporting Fresh Vegetables from Texas, by W. B. Langford and Jean D. Neal. 58 pages, tables. Published by the Agricultural & Mechanical College of Texas, College Station, Tex.

Issued as Bulletin No. 118 of the Texas Engineering Experiment Station, resulting from a study directed toward discovering and bringing to light the basic facts necessary for judgment of freight-rate issues which are among the most controversial and important in the transportation field. It was undertaken as a result of a complaint filed with the Interstate Commerce Commission by the Texas Citrus & Vegetable Growers & Shippers Association which alleged that the rates on vegetables were unreasonable in violation of Section 1, Interstate Commerce Act, unduly prejudicial to Texas shippers, and unduly preferential to shippers of vegetables located in Arizona, California, and New Mexico. It covers production, the market, the importance of transportation in production and marketing of fresh vegetables and comparative freight rates.

How to Raise Real Wages, 46 pages. Published by the Committee for Economic Development, 444 Madison ave., New York 22.

Why real wages have risen in the past; ways to increase output; ways to raise real wages, and the outlook for real wages are discussed in this CED booklet.

BOOK

Directory of Railway Officials and Year Book, 1950-1951. Compiled from official sources under direction of the editor of the *Railway Gazette*. 640 pages. Published by Tothill Press Limited, 33 Tothill st., Westminster, S.W.1, London, England. 30 shillings.

Formerly issued as the "Universal Directory of Railway Officials and Railway Year Book," the title of this valuable handbook has now been shortened to "Directory of Railway Officials and Year Book." Political and economic changes in many parts of the world have necessitated many changes. So far as Great Britain is concerned, all the

entries have been completely recast, and the various Executives of the British Transport Commission are shown on a consistent basis. A revised map has been prepared showing the British Railway regions as adjusted on April 2, 1950. Changes in other parts of the world include insertion of new entries for Israel, Jordan, and Saar, and of substantially-revised information on Argentina, Germany, India, and, in part, Pakistan. Changes and additions have also been made in the statistical and year-book sections. There are three indexes—an index to countries, a general index, including all references to railways and statistical and other information, and a comprehensive personal index of railway officials.



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Freight Operating Statistics of Large Steam Railways — Selected

Region, Road and Year	Miles of road operated	Train-miles	Locomotive Miles		Car Miles		Ton-Miles (thousands)			Road-Locs. on line			
			Principal and helper	Light	Loaded (thous.)	Per cent loaded	Gross excl. locos. rev. and tenders non-rev.	Net	Serviceable	Unstored	Stored	B.O.	Per Cent B.O.
New Eng. Region													
Boston & Maine.....	1,700	272,654	281,487	12,688	10,419	68.8	653,585	273,001	91	5	12	11.1	
1949	1,746	272,317	280,922	13,590	10,295	68.7	638,912	269,169	100	16	12	9.4	
N. Y., N. H. & Hfd.....	1,771	300,570	301,400	34,406	12,207	68.4	755,844	337,579	111	..	16	12.6	
1949	1,774	277,291	278,786	22,967	11,235	67.1	689,197	296,153	110	8	12	9.2	
Delaware & Hudson.....	794	249,903	297,891	30,088	10,546	68.2	747,639	393,118	132	36	23	12.0	
1949	794	256,172	304,266	31,378	10,594	66.4	755,304	386,244	129	52	20	10.0	
Del. Lack. & Western.....	965	272,736	293,691	31,889	12,659	70.2	824,408	377,276	78	6	36	30.0	
Erie.....	967	282,014	260,055	37,004	12,536	66.5	849,036	383,505	104	16	24	16.7	
1950	2,231	700,151	731,789	53,538	37,856	69.0	2,401,807	1,027,580	182	1	42	18.7	
Grand Trunk Western.....	971	301,869	311,326	2,645	10,978	64.5	2,068,691	839,844	183	72	43	14.4	
1949	971	258,487	265,636	2,760	8,704	61.4	596,999	244,872	56	..	12	17.1	
Lehigh Valley.....	1,238	256,716	272,929	24,760	13,323	70.6	875,313	414,312	52	4	31	35.6	
1949	1,239	246,740	269,258	29,928	11,647	66.0	816,620	383,641	72	12	17	16.8	
New York Central.....	10,691	2,561,004	2,705,546	169,096	91,743	62.3	6,426,570	2,864,829	997	49	395	27.4	
1949	10,689	3,099,504	3,311,019	199,202	108,114	59.6	7,700,855	3,430,825	991	141	325	22.3	
New York, Chic. & St. L.....	2,162	837,523	857,253	13,916	33,997	66.1	2,306,112	1,016,759	192	..	51	21.0	
1949	2,162	717,254	736,794	5,993	27,180	63.6	1,901,252	848,602	195	34	42	15.5	
Pitts. & Lake Erie.....	221	82,017	84,739	7	3,287	68.0	275,519	169,093	30	1	21	40.4	
1949	221	87,815	90,775	..	3,741	69.8	319,036	197,288	35	5	12	23.1	
Wabash.....	2,381	633,584	638,708	10,125	25,562	68.6	1,605,610	641,309	142	1	62	30.2	
1949	2,381	533,488	540,804	8,934	19,088	66.5	1,239,743	507,034	145	18	41	20.1	
Baltimore & Ohio.....	6,086	2,023,782	2,459,854	72,538	75,215	64.9	5,678,782	2,794,036	700	54	253	25.1	
1949	6,086	1,894,948	2,316,036	256,744	68,044	60.7	5,256,570	2,607,317	763	50	262	24.4	
Central of New Jersey.....	410	73,196	76,489	5,208	2,926	66.0	221,448	113,406	34	1	12	25.5	
Central of Pennsylvania.....	212	73,054	81,514	14,124	2,960	70.7	216,943	116,734	35	1	16	30.8	
1949	212	73,336	80,347	11,815	2,719	63.1	205,461	107,659	36	3	17	30.4	
Chicago & Eastern Ill.....	886	135,994	135,994	2,921	5,199	62.2	330,907	155,651	26	1	1	3.6	
1949	909	122,985	123,252	2,529	4,504	68.4	291,757	135,842	31	21	7	11.9	
Elgin, Joliet & Eastern.....	238	103,072	104,059	72	3,774	65.3	300,581	159,851	38	..	2	5.0	
1949	238	93,898	94,385	26	3,456	66.3	268,641	147,125	41	2	..	..
Pennsylvania System.....	10,009	2,661,754	2,898,515	326,353	109,022	65.9	7,704,614	3,759,332	1,254	400	242	24.2	
1949	10,039	3,206,341	3,582,785	416,874	130,996	61.1	9,741,018	4,646,549	1,441	121	342	18.0	
Reading.....	1,315	375,986	395,236	34,097	14,910	68.2	1,128,344	620,290	177	20	43	17.9	
Western Maryland.....	837	176,933	207,054	23,240	6,652	64.7	533,295	296,973	146	33	15	7.7	
1949	836	184,437	227,585	32,393	6,540	59.6	550,232	297,143	151	16	13	7.2	
Panhandle Region													
Chesapeake & Ohio.....	5,045	1,518,684	1,609,191	68,168	65,065	57.7	5,460,731	2,993,269	521	34	157	22.1	
1949	5,031	1,546,228	1,649,594	72,423	68,500	56.2	5,968,719	3,314,194	545	20	127	18.4	
Norfolk & Western.....	2,107	699,300	734,592	45,170	31,906	59.1	2,756,132	1,484,211	244	31	44	13.8	
1949	2,107	774,160	820,516	55,711	35,854	55.5	3,277,600	1,786,091	261	40	20	6.2	
Atlantic Coast Line.....	5,480	872,236	875,824	12,436	25,016	63.2	1,699,054	759,014	315	19	105	23.9	
1949	5,543	887,109	897,314	13,257	22,243	59.1	1,549,689	644,877	349	18	80	17.9	
Central of Georgia.....	1,783	279,087	283,617	4,613	7,597	74.0	473,634	222,966	98	2	10	9.1	
1949	1,783	253,772	260,105	3,855	6,561	70.4	422,688	194,757	103	2	10	8.7	
Gulf, Mobile & Ohio.....	2,851	329,592	329,592	370	14,954	71.4	953,205	437,675	62	5	3	4.3	
1949	2,854	305,050	305,050	76	14,177	72.0	928,218	446,353	78	25	6	5.5	
Illinois Central.....	6,543	1,495,758	1,500,933	54,307	52,040	64.2	3,688,173	1,693,547	558	1	95	14.5	
1949	6,544	1,394,846	1,398,739	48,809	48,036	60.4	3,440,920	1,563,154	559	28	78	11.7	
Louisville & Nashville.....	4,770	1,307,628	1,417,316	38,042	38,705	63.2	2,858,909	1,397,523	345	24	99	21.2	
1949	4,765	1,299,112	1,412,036	36,931	35,336	60.0	2,660,818	1,313,899	385	35	58	12.1	
Nash., Chatt. & St. Louis.....	1,049	227,445	231,028	4,669	6,636	75.2	407,275	191,332	60	..	2	3.2	
1949	1,051	230,581	234,281	4,025	6,327	71.0	402,286	183,251	73	3	39	*8.4	
Seaboard Air Line.....	4,136	779,863	804,958	6,431	24,946	64.5	1,733,017	751,296	287	31	29	12.5	
1949	4,141	762,369	789,466	12,416	22,201	60.1	1,587,871	650,300	266	8	39	14.6	
Southern.....	6,320	1,077,244	1,086,607	12,127	34,446	68.6	2,237,565	1,022,891	389	45	147	25.3	
1949	6,382	1,282,102	1,292,393	15,568	36,459	64.7	2,398,617	1,033,449	424	94	145	21.9	
Chicago & North Western.....	7,998	904,963	916,799	20,832	32,209	65.3	2,273,136	934,061	286	26	129	29.3	
1949	8,073	854,798	880,614	20,110	28,337	64.2	1,990,490	864,279	321	59	93	19.7	
Chicago Great Western.....	1,441	154,625	154,743	3,961	8,499	68.3	553,113	242,081	33	1	2	2.9	
1949	1,445	158,464	158,818	6,245	7,767	65.2	518,050	222,098	41	2	20	31.7	
Chic., Milw., St. P. & Pac.....	10,663	1,227,307	1,271,471	44,242	45,714	65.8	3,067,211	1,371,137	414	57	96	16.9	
1949	10,663	1,245,665	1,296,090	46,232	42,852	65.1	2,925,692	1,314,670	414	99	79	13.3	
Chic., St. P., Minn. & Omaha.....	1,606	179,578	184,201	8,168	5,174	70.9	335,027	145,579	70	4	39	34.5	
1949	1,606	149,796	168,493	6,248	4,668	71.0	286,663	125,881	71	14	23	21.3	
Duluth, Missabe & Iron Range.....	562	149,204	149,883	1,301	7,124	51.4	764,959	466,828	45	..	2	4.3	
1949	575	158,459	159,626	1,607	8,599	51.0	861,613	518,886	37	1	2	2.6	
Great Northern.....	8,220	1,051,080	1,051,060	38,137	39,649	63.0	2,958,675	1,427,184	334	71	59	12.7	
1949	8,222	950,259	947,693	39,063	40,158	55.8	2,971,938	1,498,968	338	54	114	11.4	
Minneap., St. P. & S. S. M.....	4,179	395,333	400,570	5,598	13,252	67.6	868,755	409,284	99	..	20	16.8	
1949	4,179	388,662	394,572	6,170	12,092	65.7	811,155	379,089	113	..	22	16.3	
Northern Pacific.....	6,608	762,675	798,336	36,107	32,199	70.3	2,171,895						

Items for the Month of May 1950 Compared with May 1949

Region, Road and Year		Freight cars on line			G.t.m.per	G.t.m.per	Net	Net	Car	Net	Train-	Miles
		Home	Foreign	Total	train-hr.	train-mi.	ton-mi.	ton-mi.	ton-mi.	ton-mi.	miles per	per
New Eng. Region	Boston & Maine.....	1,667	9,563	11,230	3.9	38,212	2,402	1,003	26.2	832	46.2	5,180
	1949	3,148	7,801	10,949	3.4	37,390	2,351	991	26.1	791	44.0	4,973
	1950	1,741	18,704	20,445	1.6	36,486	2,516	1,124	27.7	539	28.5	6,149
	1949	2,542	14,482	17,024	2.2	37,563	2,495	1,072	26.4	570	32.2	5,385
Great Lakes Region	Delaware & Hudson.....	3,000	6,566	9,566	5.9	53,864	3,002	1,579	37.3	1,351	53.2	15,971
	1949	4,755	5,471	10,226	6.0	53,439	2,964	1,516	36.5	1,163	48.0	15,692
	1950	6,208	11,453	17,661	11.1	46,892	3,082	1,410	29.8	703	33.6	12,612
	1949	7,384	9,791	17,085	5.6	44,371	3,064	1,384	30.6	726	35.7	12,793
Central Eastern Region	Erie.....	9,228	22,079	31,307	7.2	59,110	3,460	1,480	27.1	1,083	57.8	14,858
	1949	13,278	16,664	29,942	8.3	56,695	3,441	1,397	26.4	899	52.8	12,143
	1950	4,519	12,232	16,751	6.7	49,371	2,467	1,042	28.4	652	35.6	10,342
	1949	5,460	8,058	13,518	9.9	48,505	2,333	957	28.1	602	34.9	8,135
Pitts. & Lake Erie	Lehigh Valley.....	4,824	10,584	15,408	8.6	67,172	3,468	1,641	31.1	863	39.3	10,796
	1949	9,441	9,754	19,195	10.7	60,289	3,373	1,585	32.9	654	30.1	9,988
	1950	68,413	99,255	167,668	8.7	42,596	2,556	1,135	31.2	546	28.1	8,644
	1949	75,721	79,038	154,759	7.2	43,072	2,524	1,124	31.7	701	37.1	10,354
Penns. Region	New York Central.....	5,263	26,485	26,485	4.2	49,969	2,802	1,235	29.9	1,238	62.6	15,171
	1949	10,753	14,480	25,233	3.2	47,554	2,707	1,208	31.2	1,113	56.1	12,662
	1950	4,526	10,158	14,684	18.0	46,937	3,365	2,065	51.4	356	10.2	24,682
	1949	6,786	9,226	16,012	11.5	55,197	3,637	2,249	52.7	390	10.6	28,797
Pocahontas Region	Wabash.....	6,615	12,764	19,379	2.8	54,275	2,556	1,021	25.1	1,068	62.1	8,689
	1949	8,960	10,317	19,277	3.4	49,473	2,343	958	26.6	863	48.8	6,869
	Baltimore & Ohio.....	35,218	54,121	89,339	11.6	37,099	2,865	1,410	37.1	1,054	43.8	14,809
	1949	62,159	62,261	101,420	10.6	36,437	2,831	1,404	38.3	810	34.8	13,820
Southern Region	Central of New Jersey.....	718	10,112	10,830	6.3	38,987	3,123	1,600	38.8	354	13.8	8,923
	1949	1,239	8,579	9,818	6.7	41,347	3,034	1,546	38.5	346	14.3	7,983
	1950	913	3,375	4,288	16.4	43,467	3,135	1,687	39.4	852	30.6	17,762
	1949	1,796	3,138	4,934	11.5	39,383	3,018	1,582	39.6	678	27.1	16,381
Northern Region	Chicago & Eastern Ill.....	1,937	4,190	6,127	7.7	43,346	2,440	1,148	29.9	830	40.0	5,667
	1949	3,082	3,038	6,120	9.2	41,614	2,377	1,107	30.2	688	33.3	4,821
	Elgin, Joliet & Eastern.....	6,992	12,996	19,988	1.8	22,596	3,005	1,598	42.4	256	9.2	21,666
	1949	7,182	9,572	16,754	3.0	22,963	3,015	1,651	42.6	280	9.9	19,941
Atlantic Coast Line	Pennsylvania System.....	108,441	107,387	215,828	16.1	44,241	2,996	1,462	34.5	558	24.5	12,116
	1949	141,902	89,223	231,125	10.3	44,804	3,139	1,497	35.5	633	29.2	14,931
	Reading.....	10,634	20,938	31,572	9.1	37,227	3,002	1,650	41.6	645	22.7	15,216
	1949	14,655	15,923	30,578	6.7	38,692	2,928	1,575	42.9	639	23.8	15,199
Midwestern Region	Western Maryland.....	5,026	8,833	7,859	3.1	41,686	3,069	1,709	44.6	1,230	42.6	11,445
	1949	6,783	2,625	9,408	1.4	40,891	3,020	1,631	45.4	1,075	39.7	11,466
	Chesapeake & Ohio.....	49,447	29,939	79,386	6.6	60,076	3,641	1,996	46.0	1,212	45.6	19,139
	1949	63,501	23,437	86,938	4.1	64,965	3,898	2,164	48.4	1,224	45.0	21,250
Southwestern Region	Norfolk & Western.....	27,832	6,993	34,825	4.1	64,861	3,993	2,150	44.5	1,350	49.1	22,723
	1949	37,946	7,054	45,000	4.4	70,291	4,297	2,342	49.8	1,349	48.8	27,345
	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.).....	12,253	16,172	28,425	4.6	31,298	1,958	875	30.3	866	45.1	4,468
	1949	13,491	13,868	27,359	5.0	29,755	1,755	730	29.0	751	43.9	3,753
Southwestern Region	Central of Georgia.....	2,576	4,289	6,865	9.6	30,459	1,704	802	29.3	949	43.7	4,034
	1949	3,532	4,325	7,857	7.7	29,910	1,671	770	29.7	827	39.6	3,524
	Gulf, Mobile & Ohio.....	3,975	9,960	13,935	2.6	58,630	2,902	1,333	29.3	1,020	48.8	4,952
	1949	4,167	8,421	12,588	2.7	58,195	3,052	1,468	31.5	1,120	49.4	5,045
Central Western Region	Illinois Central.....	21,435	26,755	48,190	3.5	45,507	2,496	1,146	32.5	1,086	52.0	8,349
	1949	24,641	23,457	49,098	2.4	46,374	2,494	1,133	32.5	1,018	51.8	7,705
	Louisville & Nashville.....	33,233	16,064	49,297	10.6	35,229	2,194	1,072	36.1	911	39.9	9,451
	1949	38,783	11,128	49,911	3.6	33,753	2,056	1,015	37.2	833	37.4	8,895
Southeastern Region	Nash., Chatt. & St. Louis.....	2,022	4,465	6,487	5.3	35,536	1,804	848	28.8	896	41.3	5,884
	1949	3,183	3,431	6,614	12.3	35,957	1,758	801	29.0	877	42.6	5,624
	Seaboard Air Line.....	9,401	13,707	23,108	2.3	40,036	2,277	987	30.1	1,029	52.9	5,860
	1949	11,282	10,382	21,664	2.3	38,147	2,132	873	29.3	925	52.5	5,066
Central Western Region	Southern.....	14,504	24,813	39,317	3.5	35,872	2,093	957	29.7	784	38.5	5,221
	1949	18,448	26,240	44,668	5.0	33,454	1,885	812	28.3	738	40.4	5,224
	Chicago & North Western.....	19,779	31,488	51,267	3.2	41,479	2,622	1,077	29.0	589	31.1	3,767
	1949	23,384	24,735	48,119	3.1	37,194	2,432	1,056	30.5	584	29.7	3,453
Central Western Region	Chicago Great Western.....	1,529	4,932	6,461	3.0	63,235	3,586	1,569	28.5	1,169	60.1	5,419
	1949	2,034	4,706	6,740	7.7	53,440	3,273	1,403	28.6	1,004	53.8	4,958
	Chic., Milw., St. P. & Pac.....	28,962	30,569	59,531	2.9	41,865	2,521	1,127	30.0	739	37.5	4,148
	1949	32,521	27,474	59,995	1.9	39,089	2,363	1,062	30.7	727	36.4	3,977
Central Western Region	Chic., St. P., Minn. & Omaha.....	970	7,233	8,203	3.9	26,172	1,893	823	28.1	580	29.1	2,924
	1949	1,032	5,766	6,798	5.3	24,226	1,758	772	28.2	588	29.4	2,528
	Duluth, Missabe & Iron Range.....	13,892	421	14,313	3.2	87,264	5,363	3,273	65.5	1,022	30.4	26,795
	1949	14,884	492	15,376	4.0	91,070	5,665	3,412	60.3	1,098	35.7	29,110
Central Western Region	Great Northern.....	24,316	19,796	44,112	5.1	43,387	2,852	1,376	36.0	1,051	46.4	5,601
	1949	24,745	15,635	40,380	3.2	47,289	3,157	1,592	37.3	1,165	47.6	5,981
	Minneap., St. P. & S. S. M.....	6,908	14,996	6,2	39,824	2,217	1,045	30.9	888	42.6	3,159	18.1
	1949	7,801	6,060	13,861	7.0	37,910	2,092	978	31.4	882	42.8	2,926
Central Western Region	Northern Pacific.....	19,160</										

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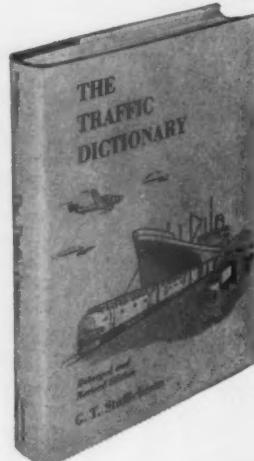
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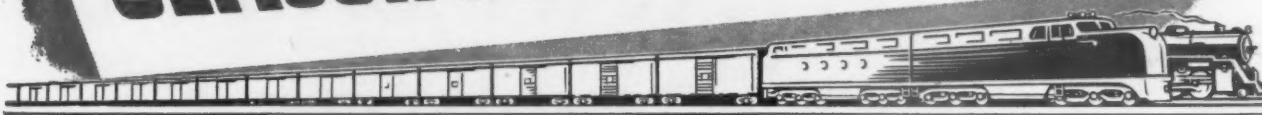
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